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ondition of dustry Good, eport States

Low Inventories With Big Output Good Indication

ASHINGTON — Relatively low ntories of nitrogenous materials he hands of producers this sum- are regarded as indicative of y movement of these materials, rding to a U.S. Department of mmerce industry report just issued.

The data, published by the Busi- s and Defense Services Admin- ration of the Department of mmerce, said that the high pro- ction rate which prevailed for mmonia and its derivatives during e first five months of 1955 pered off in June as the spring mand for fertilizer materials ew to a close.

nventories of anhydrous ammonia, ich had reached a peak of 121,- tons (equivalent to about two eks' production) on Jan. 31, were

(Continued on page 21)

alifornia Foresters an to Cut Trees to alt Insects' Spread

SANTA BARBARA, CAL. — In an ort to halt the depredations of e tree killing insects which are reatening some 60,000 acres of good nber in addition to the 9,000 acres eady infested, a gigantic lumber e is being planned by foresters.

Removing timber from the larg- t stand of Jeffrey pine (mixed ith about 10% yellow and sugar ine) in Los Padres National Forest expected to control the spread the pest. The infestation is cen- ered on Alamo Mountain, due uth of Frazier Park in upper entura County.

The area is one of the few re- ining undeveloped timberland- reation spots in Southern Cali- nia.

Davison Joins In Rare Earth Development

NEW YORK—W. R. Grace & Co. has announced that its Davison Chemical Co. Division and Rare Earths, Inc., Pompton Plains, N.J., a wholly-owned subsidiary, have joined in a program of expanded production, sales, research and development of rare earths and thorium.

Rare earths have a variety of applications in industry, while thorium is a potential source of atomic energy. It can be transmuted into fissionable uranium-233 and as such may be used in some of the power plant projects now under way by industry.

Rare Earths, Inc., has a plant in operation at Pompton Plains for processing rare earths and thorium from monazite sands, and additional facilities are being installed at Davison's Curtis Bay Works (Baltimore).

To coordinate Grace's interests

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Hurricane By-Product: Crops Helped by Big Rainfall in Delaware

WILMINGTON, DEL.—Hurricane Connie did Delaware farmers more good than harm. That's the consensus among the farmers and agricultural experts after a quick survey of crop damage.

Connie's heavy rains broke a weeks-long drouth that had seriously damaged crops in many sections of the state. Sussex County had been particularly hard hit by the dry hot weather.

W. H. Henderson, agricultural agent for Sussex County, and George K. Vappa, agent for Kent County, said the rain was a boon to farmers. Most sections of the state actually had "more than they needed," but there were no reports of flood damage to crops.

The biggest damage in the state resulted from flattened corn. But the county agents said most of it can still be harvested, although the job may be more difficult. The county agents also said there may have been some damage to the tomato crop.

Farm Decline Seen As Only a Scare to Favor High Supports

By JOHN CIPPERLY
Croplife Washington Correspondent

— SPECIAL REPORT —

WASHINGTON, D.C.—Far from overwhelmed by disheartening statistical data confronting it, the U.S. Department of Agriculture administration has stalwartly taken the offensive to press adoption of the "Benson Farm Philosophy." The first indication of this offensive comes from a speech made last week by Don Paarlburg, chief Benson economic adviser, speaking before the Worcester county farmers field day at West Milbury, Mass.

The Paarlburg speech was hardly made public before the high rigid farm price support advocates took off in full cry against the USDA economic adviser. These attacks came from the same group which has been pushing under the most convenient rug, the economic dust of the already discredited high support program.

Mr. Paarlburg sets forth some salient facts which require the attention of the plant food and pesticide industries. He calls attention to the "insidious poisons" that are being spread from anti-Benson sources that the decline in farm prices heralds an approaching farm depression.

Not so, says Mr. Paarlburg, and he points up his statement with factual information obtained from USDA economic sources.

First Mr. Paarlburg is in effect saying that previous administrations have repeatedly prescribed more of the rigid high price support panaceas ignoring the economic symptoms presaging a vast economic revolution in farm economics. They have cajoled the farm community into a transient sensation of prosperity and at the same time have hidden the dread effects of such a chronic condition.

The farm politicians accurately discerned the immediate effects of the high price support program as a "narcotic" to the farm community—one of maintaining the favor of the farm vote and also serving as a vehicle to return them to office year after year.

Briefly, the high price support program started with the enactment of the Steagall Amendment to the Emergency Price Control Act of 1942. In it, the Georgia congressman attempted to write into the law a means whereby after hostilities were concluded, the farm community would have a cushion against the inevitable farm price slide following extraordinary war demands.

Thus, he thought, a transition to a peacetime demand for foods and fiber could be effected without ruinous losses to the farmers through slumping prices.

But the heady wine of high-price supports was a too-convenient bottle for the congressional farm bloc who persisted in defying economics and

(Continued on page 21)

TWO PLANTS REOPEN

LAKELAND, FLA. — Phosphate plants of Virginia-Carolina Chemical Corp. and Armour Fertilizer Works here were reopened Aug. 15 after a wage settlement had been made with the AF of L International Chemical Workers Union.

Workers were being called back to their jobs and both plants were expected to be in production by the end of last week. The plants had been closed since June 1.

FORM N. CAROLINA FIRM

BETHEL, N.C.—With capital stock of $100,000, a new company, Grow-Green Chemicals, Inc., has been organized here. The principals include Tom H. Andrews, F. L. Blount, Jr. and Mabel C. Blount, all of Bethel.

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onstruction of Canadian N Plant Begins Soon

MEDICINE HAT, ALTA.—North- st Nitro-Chemicals, Ltd., expects begin construction soon of its new 3 million fertilizer plant near here. d-turning ceremonies are scheduled be held at an early date.

Production of anhydrous am- onia at the new plant is expected be 33,000 tons annually. In ad- ition, a nitric acid unit is to be cluded, with an annual capacity 39,600 tons and a sulphuric acid nit with a capacity of 132,000 tons.

The two principal sponsors of the oject are the New British Dominion Oil Co., Calgary, Alberta, and Commercial Solvents Corp., New York.

The firm has filed with the Securities & Exchange Commission a registration statement covering the proposed public sale of $8.5 million in subordinate income debentures and 1,150,000 shares of common stock.

Financing plans contemplate offering of debentures and 850,000 shares of common stock as units each consisting of $50 principal amount of debentures and five shares of common stock, with a separate offering of 300,000 shares of common stock. Eastman, Dillon & Co. will be principal underwriter for that portion of the securities to be marketed in the U.S.

A loan of $12 million from the Royal Bank of Canada, plus the proceeds of the financing, are expected to cover the cost of the big plant.

According to announced plans, the plant will be completed in about a year. Fertilizer output during the remainder of 1956 and the winter of 1957 will be stockpiled, then offered on the market in the spring of 1957 for that year's crops.

Hugh Swink

Hugh Swink Appointed Field Sales Manager By Pittsburgh Coke

PITTSBURGH — The Pittsburgh Coke & Chemical Co. has announced the appointment of Hugh Swink as field sales manager of the company's Agricultural Chemicals Division. The new position became effective Aug. 15.

Mr. Swink will continue as manager of the division's Dallas office, in charge of agricultural chemical sales in the Southern cotton belt area.

American Cyanamid to Discontinue Making and Selling Acrylon Product

NEW YORK—American Cyanamid Company's Agricultural Chemicals Division has announced that it is discontinuing the manufacture and marketing of Acrylon fumigant. The company has advised its customers that they can obtain the same fumigant, under the trade-name "Acritet 34-66," from Stauffer Chemical Co. Stauffer is producing the fumigant under a patent license agreement with Cyanamid.

Composition of the fumigant is 34% acrylonitrile and 66% carbon tetrachloride by volume. This mixture has proved effective in controlling insect infestations either by space, atmosphere chamber or vacuum chamber fumigation of stored tobacco and other products.

R. B. Stoddard and R. H. F. Dade Named To New Positions

NEW YORK, N.Y.—Food Machinery and Chemical Corporation on August 12 announced two promotions in its Chemical Divisions. Russell B. Stoddard, manager of the company's Fairfield Chemical Division, has been assigned to the technical staff of FMC's chemical divisions administrative offices, New York City. Robert H. F. Dade, southeastern manager of FMC's Niagara Chemical Division has been named to succeed Stoddard as manager of Fairfield.

Mr. Stoddard is a national authority in the field of pyrethrum chemicals and other basis organic materials used in the production of pesticides. Formerly connected with the U.S. Industrial Chemicals Company Division of National Distillers Products Corporation, he was appointed acting manager of the Baltimore, Md., operation when it was acquired by FMC last year and established as the Fairfield Chemical Division of the parent corporation.

According to Ernest Hart, FMC executive vice president in charge of chemical divisions, Mr. Stoddard is being assigned to FMC's New York administrative offices where he will serve on the staff of Dr. Carl F. Prutton, vice president of the corporation and technical director of chemical divisions.

Mr. Dade is a native of Lake County, Florida. Following service with the Bureau of Entomology of the U.S. Department of Agriculture in the early twenties, he was one of the founders in 1923 of the Peninsular Chemical Company at Orlando, Florida. Peninsular, an insecticide producer and distributor for Niagara Sprayer and Chemical Company (now the Niagara Chemical Division of FMC) was acquired by Niagara in 1929. Mr. Dade has managed the Niagara Chemical Division's operations in the southeast for the past twenty-six years.

Commenting on the new appointment, Jackson V. Vernon, president of FMC's Niagara Chemical Division, stated that Mr. Dade's long experience in the production and marketing of agricultural chemicals provides an excellent background for his new position as manager of Fairfield Chemical Division.

Diamond Black Leaf Co. Moves To Cleveland

CLEVELAND, O. — Headquarters staff of Diamond Black Leaf Company, manufacturers of pest-control products, is being transferred from Richmond, Va., to newly-established and expanded offices in the Union Commerce Building at Cleveland, Ohio.

In making the announcement, J. W. Kennady, general manager, said this centralization of management functions and administrative activities in Cleveland is part of a long-range, company-wide program. More effective coordination of the manufacture and marketing of the company's integrated lines of insecticides and pesticides for commercial growers and home gardeners is the objective of the move.

"This will enable our organization to provide better service on a nationwide basis to Diamond Black Leaf distributors and dealers," he said.

Product development and research activities of the firm will continue to be conducted at Richmond, where the company maintains a district sales office and operates one of its four formulating plants. Other Diamond Black Leaf production facilities are located at Louisville, Kentucky; Montgomery, Alabama, and Waco, Texas.

Connecticut Station Observes Field Day

NEW HAVEN, CONN.—Field r search plots and exhibits of T Connecticut Agricultural Experim Station were open to the public A 16, during the annual field day The Experimental Farm, at Mt. C mel.

Tractor-drawn wagons circle the farm, giving visitors an oppo tunity to stop at points of intere and continue the tour at their co venience. Walking tours with guid offered a choice of demonstratio of corn breeding, plant patholog field studies, and a visit to the l sectary and charcoal kiln. An o chard tour was also on the agend

Exhibits in the barn showed pr ress made in specific research proje and inspection services at the stati oldest agricultural experiment s tion in America.

Director James G. Horsfall we comed field day guests to open th program featuring research genetics and the work of Dr. Do ald F. Jones, head of the Genetic Department.

John T. Moss, president of the Co necticut Seed Trade Association, p sented an historical marker given the association in recognition of Jones' pioneer research on hyb corn at this station in 1917.

Henry A. Wallace, another pion in the advance of hybrid corn a probably its foremost advocate in t early 20's, was scheduled to give t principal address on "Small Plots a Big Men."

Vegetable Market for 1956 Still Looks Good for Both Fertilizers and Pesticides

WASHINGTON, D.C. — USDA has set up a sales target for both the plant food industry and the chemical pesticide makers with its announcement of recommended goals for winter vegetables for 1956. On balance, the USDA goals are virtually unchanged from last year with the exception of early crop potatoes. Here a recommendation of a cutback next winter of 25% from 1955 goals in the early potato crop, affects only p duction in Florida.

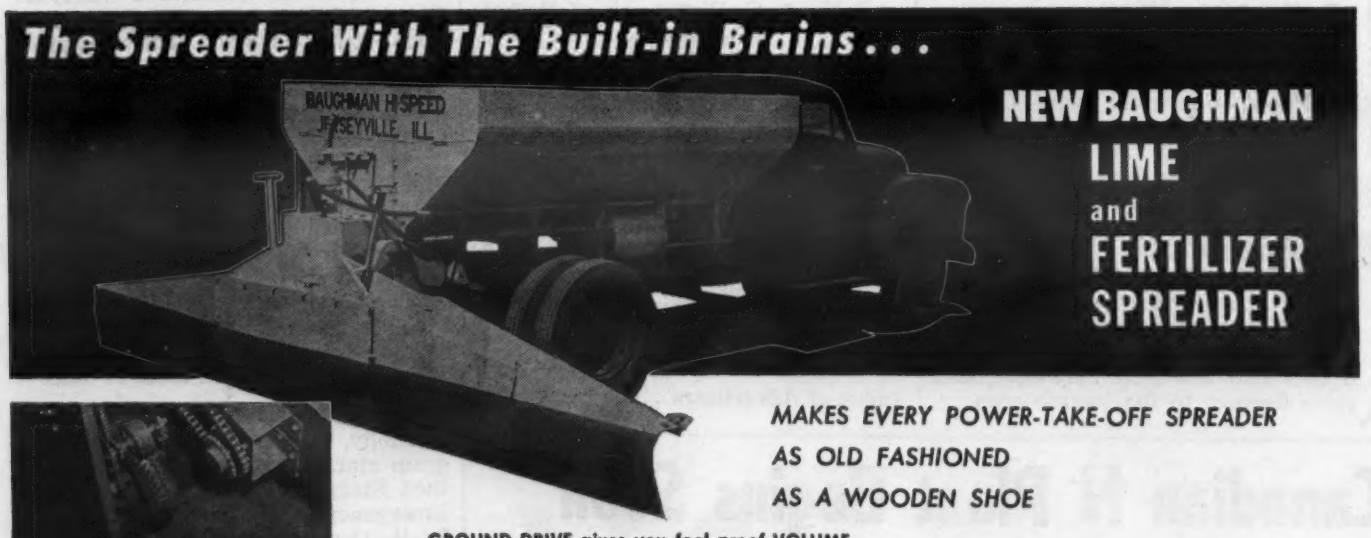
The cause of the sharp cutbac in the Florida potato producti arises from the presently indicat heavy overproduction of the 19 crop of potatoes in the eight la states. For the 1955 crop it is no seen that production will be fif million bushels in excess of nation overall requirements.

This heavy overhang of 1955 c potatoes is likely to dislocate ea crop potatoes marketed from Flor USDA now estimates that stor stocks of old crop — 1955 — potat will provide intense competition w new crop 1956 Florida potatoes— will result in lower prices for the n crop.

It must be restated that th acreage goals are only USDA rec mendations and are not to be c fused with acreage allotments of type imposed on other crops. H ever, for the nationally-grown v etable crops such as potatoes wh goals are exceeded and produc rises in excess of marketing potent or ability to absorb excessive prod tion, USDA in the past has used condition as the basis of refusals step in with price supporting op tions to remove surpluses which h plagued the market.

A guide to the plant food a pesticide industries as to their m ket potentials may be found in brief analysis of USDA regardi the marketing conditions for t 1955 crop of winter vegetabl USDA says in this connection, " 1955, winter vegetable producti was 1.2% less than the 1954 le but was about 5% above the 19 53 average. Winter vegetable pric in 1955 averaged only 87.4% of th same base."

(Continued on page 23)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ollworms and Boll Weevils ose Serious Threat as Rain ows Down Dusting Activity

EMPHIS, TENN. — Farmers ed up activity in the Mid-South g the past week with early har- ng and insect control occupying r attention.

tton picking is under way on a ed scale in the southern part of issippi and a considerable amount rghum and corn silage is being

. G. Bennett, Mississippi exten- sion entomologist, sounded a rning on the cotton crop pros- ts with a report that boll weevils bollworms rapidly are becom- serious threats.

rkansas cotton farmers were ding for more cotton dusting es as frequent rains were wash- the insect poison off the cotton ost as fast as it was dusted.

ruck crop movement on major kets has slowed, according to sley Hines, Mississippi extension iculturist.

Most vegetables are still plenti- on local markets. Many truck p growers are making plantings collards, beans, mustard and nips for fall marketing.

ybean crop prospects are good, and corn promises to turn out the best crop in a number of years.

Crop production this year in Arkansas will be 8% above last year's harvest and 6% above the 1944-53 average, the Federal-State Crop Reporting Service predicted.

Based on an Aug. 1 survey of crop conditions, the reporting service found that record crops are in sight for corn and soybeans.

PILOT HITS LEVEE, DIES

GARLAND CITY, ARK.—A crash of his crop-dusting plane, on the shoulder of a levee near here, was fatal to pilot Donald W. Lantz of Texarkana, Texas.

Nathan D. Froot

GK Names Head Eastern Branch New York City

INNEAPOLIS — As part of its nsion program, McLaughlin mley King Company, Minneapolis, eer in production of pyrethrum, hrin and aerosol insecticide con- rates, has announced the open- of an eastern office located at East 40th Street, New York 16, York.

Nathan D. "Jerry" Froot who been with Pesticide Advisory vice and Propel Chemicals for eral years has been appointed nager of the newly created nch. Mr. Froot is well known the insecticide industry and has e considerable work in the field aerosols.

he New York office will have rvision of sales in the New Eng- , New York and Middle Atlantic s. Harry W. Gaffney will con- e to represent the Company in adelphia and Baltimore.

GK's New York phone number Exington 2-4115.

"Utility" Plane for Agriculture Certified

LOS ANGELES — The Fletcher FU-24 "Utility" has been officially certified by the United States Civil Aeronautics Administration as the first agricultural, cargo-carrying, and passenger-carrying aircraft ever to be licensed in this country.

Granted after exhaustive CAA tests, the certification permits use of the airplane in the U.S. for practically any purpose in the utility and passenger carrying class. First announced last year, the Fletcher "Utility" not only is the first licensed agricultural-passenger aircraft, but is the only one now in volume production, according to Wendell Fletcher, president of Fletcher Aviation Corp., manufacturer of the craft.

Under a contract calling for production of one hundred of these planes for the Cable-Price Corp. of Auckland, New Zealand, Fletcher Aviation currently has delivered more than 50 of the "Utility" aircraft. The plane is in use now in New Zealand for "crop dusting" purposes, assisting the agricultural industry there in their "top dressing," or aerial fertilization program. The planes have been in use in New Zealand since January of this year.

JOINS HOUSTON COMPANY

HOUSTON, TEXAS — Harvey M. Harker, former district sales manager here for Monsanto Chemical Company's Organic Chemicals Division, has joined the staff of C. Pat Lumpkin and Associates, industrial and commercial real estate brokers with headquarters in Houston.

Because of his production experience and knowledge of the chemical and related industries, Harker will specialize in the investigation of potential plant sites in the South and Southwest.

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SPECIAL EMULSION SPRAY CONCENTRATE	2.67# BUTYL ESTER WEED KILLER
CATTLE SPRAY, READY-MIXED	3.34# ISOPROPYL ESTER WEED KILLER
CATTLE SPRAY, EMULSION CONCENTRATE	2#,2,4-D, 2#2,4,5-T BRUSH KILLER
20% LINDANE EMULSION CONCENTRATE	RAT-KILL WITH WARFARIN
11% BHC EMULSION CONCENTRATE	WATER SOLUBLE RAT & MOUSE KILLER
2# ALDRIN EMULSION CONCENTRATE	WITH PIVALYN

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INSECT, PLANT DISEASE NOTES

Corn Insects Cause Heavy U.S. Losses

WASHINGTON—Widespread damage across the nation is being caused by corn insects, according to the U.S. Department of Agriculture in a summary report on insects prepared by the USDA's Agricultural Research Service.

Leading the list of most injurious corn pests were earworms, European corn borers, corn leaf aphids and rootworms.

The report states that the corn earworm has seriously damaged all of Wisconsin's early sweet corn and threatened field and late sweet corn. It has infested fields of untreated sweet corn in New Jersey and field corn generally in Delaware. This insect was reported more abundant in the Hudson Valley, New York, than in any year since 1949. It was also of major concern in eastern Colorado and was causing severe damage to early and late corn in several New Mexico counties. Alfalfa in Louisiana and heads of grain sorghum in Oklahoma, Arkansas and Texas suffered from corn earworm attacks. The insect was infesting half the ears in the Gilbert area of Arizona, and more than half of some corn fields at Logan and Providence, Utah. In Virginia, Buckingham and Northumberland counties were almost completely infested, and Goochland County corn also was suffering damage, according to the USDA report.

Damage by the European corn borer in Illinois may exceed any previous damage in that state, the report said. Flights of corn borer moths were unusually heavy there and expected to increase, with peak of egg laying completed during Aug. 10-15. The pests have built up substantially in Wisconsin, injuring early fields severely.

Corn borer moths have been flying for a month in Iowa and a second brood is expected to damage practically all stages of corn there.

Corn leaf aphids were abundant on corn in several areas of Delaware and in Howard County, Maryland. They had also infested sweet corn in southern Wisconsin and sorghum and milo in east-central Nebraska and in several areas of Texas and Oklahoma.

Corn rootworms were damaging corn at Dewey, Ariz., and in Watonwan County, Minnesota. They were abundant in Otero County, Colo... and in bottom land corn near Cla... ville, Tenn., and were expected to ... crease on peanuts in Virginia's T... water area.

Also inflicting damage, in var... degrees, were the lesser corns... borer in Connecticut, Virginia, ... Arizona; the southern cornstalk b... in Virginia; the fall armyworm ... Delaware and Virginia; corn sap b... tles in Delaware, Virginia, and W... consin; and mites on corn in Colo... Utah, and Arizona.

Insects, Plant Diseases Plague Delaware Crops

NEWARK, DEL.—Both downy ... dew and powdery mildew are ... present on cantaloupes in the Bet... Laurel-Columbia area.

Major pests in beans and soybe... include the strawberry spider m... two-spotted spider mite, grassh... pers, margined blister beetle and ... tato leafhopper.

Corn is being attacked by e... worm, sap beetles, corn leaf aph... Japanese beetle and fall arm... worm. The last-named is attacki... late corn from Mt. Pleasant sou... ward, with severe injury in t... Dover to Little Creek area.

A partial third brood of cod... moth appears certain to infest fr... Unspotted tentiform leaf miner ... present in some orchards.

BUGS TAKE OVER HOUS...

CUMBERLAND, MD.—An "inv... ing army of thin, black bugs" wh... came up out of the ground afte... heavy rain last week, forced the K... neth W. Troutman family to move ... with neighbors. The bugs, descri... as numbering in the "thousands ... thousands," crawled up the sides ... the Troutman house and refused ... be washed off with the garden h... Police, called by the distraught r... dents, were also unable to do a... thing about the invaders, nor co... they identify them.

Predators Fail to Stop Illinois Corn Borers

URBANA, ILL.—Corn borer in... tations continue to develop more ... less as predicted. Pupation ran... from 84 to 96% and is apparen... terminated. Those first-generat... borers which have not now pupa... will probably carry over until n... spring.

Moth emergence is at its peak ... with 15 to 20% of the first-generat... moths yet to emerge we will exp... moth activity to continue at a h... level for another week or 10 d... Egg laying is at or close to peak l... but will continue strong for s... time and then taper off into ... early part of September.

Again this week egg counts a... highest in the area north of Hig... way 136, east of Peoria, and sou... of the Illinois River. However, e... laying is regarded as heavy ov... all the northern half of the sta... with egg mass counts from l... than one to over 11 per plant.

Despite the presence of predat... lady bird beetles, predaceous b... and aphis lions which are destroy... large numbers of corn borer eggs ... newly hatched larvae, at the s... time it is highly probable that ... borer populations this fall will ... equal or perhaps far exceed th... of 1949. This is the third consecu... week this report has painted a d... picture and suggested that a h... percentage of the corn fields in no... ern Illinois would justify one or m... applications of insecticide.

Considerable spraying for gra... hoppers has been reported duri... the past week, but there are s... many fields that would just... treatment. The hoppers are now r...

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Another Great Season in '55 for Stauffer Captan 50-W

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Outstanding Seed Protection with Captan 75-W

Top fungicidal protection of grain, vegetable and ornamental seed is assured with Stauffer Captan 75-W even under the most adverse conditions of storage or germination. Excellent flowability and very fine particle size add to Captan's unsurpassed effectiveness as a fungus killer.

Stauffer will provide useful literature describing the use of Captan for seed treatment this fall, and as a general crop pesticide for next year. For technical, price, or delivery information on Captan—or any of the many Stauffer products—contact your local Stauffer field representative or nearest office.

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y becoming adult and will soon come widely scattered. To be asonably effective, control operans should be applied at once. By ating now you may protect this ar's crop and greatly reduce the ospects of grasshopper trouble in 56.

reen clover worms, yellow striped y worms, and bean leaf beetles reported to be doing moderate serious damage in many soybean ds over a wide area of central Illi-. There are spotted reports of ous damage ranging from Chris- County on the south to LaSalle Kankakee Counties to the north. se pests, the green clover worm in ticular, will warrant watching. nember, last year these worms ctically stripped many soybean ds of their foliage in a matter of to four days.—George C. Decker.

eevil and Bollworm mage Increases

LEMSON, S.C.—Weevil and boll-m damage increases. During the t 3 weeks, parts of the coastal a have lost more than one half cotton crop, but in most places ere a schedule could be kept up, results of weevil control are ap-ent. Cotton leaf worms reported esting cotton in Dillon, and cab-ge looper is reported in Sumter, endale and Dillon.

Boll rots of bottom bolls are rare density of foliage makes boll rot uation precarious. Defoliation be-n in Allendale County on Aug. 4.

Bagworms damage evergreens ch as arborvitae and are now tting so large as to make con-ol with insecticides difficult. rizona cypress affected with Juni-r blight, Colleton County. Leaf ots on tomatoes important, in me instances causing fruit dam-ge.

Light bagworm damage to cucum-rs is noted in the Charleston area, light to moderate aphid infesta-ns noted on cucumbers and canta-pes. Velvetbean caterpillar adults ken in light trap recently, but lar-e not yet noted in Charleston area. True armyworm still noted in num-rs in Clemson light traps. Fall myworm adults taken in Charles-n light trap. Corn earworm moth tch increased markedly in Charles-n.

eather Cooperates with sects Against Growers

PHOENIX, ARIZ.—Cotton plants e fruiting very heavily. The boll-rms seem to be present in greater mbers than in 1954, and Lygus pulations have also been very avy in many fields.

In Maricopa County, cotton boll-orms are the number one insects. n some fields, the Lygus continue o be a problem unless controlled. he salt-marsh caterpillars seem to e on the increase in some areas, nd farmers should control them the hatches show high survival.

The Graham County agent reports at bollworms and Lygus are the mber one insects, while in Greenlee unty, cotton bollworms, rapid plant gs, and stink bugs are on the in-ease. Control measures are in prog-ss.

In Pinal County, aphids are re-rted to be showing up in one field the Eloy area, as well as one field th spider mites. Some cotton in s county has been severely in-red by floods, especially in the uthern portion of the farming area. both Pinal and Pima Counties, llworms are the number one in-cts, with Lygus counts decreasing. Bollworms were found causing in-y in many parts of Yuma County. e cotton leaf perforator is caus-severe injury to stub cotton. A spider mites are also showing up cotton, as well as some soybeans. lt-marsh caterpillars are also on the increase in this county. Bollworms and Lygus are both on the increase in Cochise County. — J. N. Roney.

Second Generation of Hoppers in Missouri

COLUMBIA, MO. — Rains during the week helped ease hopper damage considerably, but over much of the state, we have a heavy second generation of red-legged and Mexican hoppers coming on. These, together with the big yellow differential hoppers, will work fall-sown crops unless the hoppers are killed now.

Corn earworms are beginning to feed in grain sorghum heads in some fields. Most of the worms we have seen are still relatively small, and damage not excessive. As the worms get larger, however, damage becomes much greater.

Squash bugs are getting started on pumpkins and squashes. Control is difficult if the bugs get a good start.

The next two to three weeks will be a critical time on cotton. Spider mites are heavy in a few fields. In part of these fields the infestation is still confined to the outside rows, but in others, the entire field needs spraying.

Over most of the Missouri Delta, bollworms could become a serious problem within the next couple of weeks. We have seen some fields that need spraying and a good many others are close to the border line as to whether or not to spray.—Stirling Kyd and Geo. W. Thomas.

Weevil Infestations on Increase, Report Says

KNOXVILLE, TENN. — For the most part, most cotton fields are rank and this has hindered control operations to some extent where insects are a problem. Damp weather is causing some shedding of young squares and bolyls. A few days of squares and bolls. A few days of

Boll weevils are continuing to increase in the southern counties. Adults are migrating to nearby non-infested fields and are increasing in numbers in the infested areas. Infestations are slowly moving to the north and are being found doing considerable damage. This was found to be the case in Chester and the southern part of Madison County.

This week, 57 fields were surveyed in eight counties of west Tennessee. Of these fields, 54 were found to be infested. The average percent of infestation for the infested fields was 17%. Last week it was 12.6% and was 4% at this time last year. The over-all average for the infested and non-infested fields together was 16%.

The weather has continued to be favorable for weevil buildup and still larger populations are expected as the season goes on. Control measures are being carried out in most fields in the southern counties.

Twenty-two fields in middle Tennessee were examined for boll weevil in Polk, Lincoln, Giles, and Lawrence Counties. Only 1 field in Giles County was found to have a 1% infestation. All other insects were very low in numbers.—R. P. Mullett.

PILOT LANDS IN TREE

BOWLING GREEN, KY.—Here's a more pleasant switch from the recent grim news regarding airplane duster accidents. Carl Dimmler, 35, escaped unhurt when his crop-dusting plane landed in the top of a 60-ft. tree near here. He had been flying low over a field when his craft struck a power line which bounced it into the tree top. After climbing down the tree, the pilot was waiting on the ground, unscathed, when rescuers came racing to his aid.

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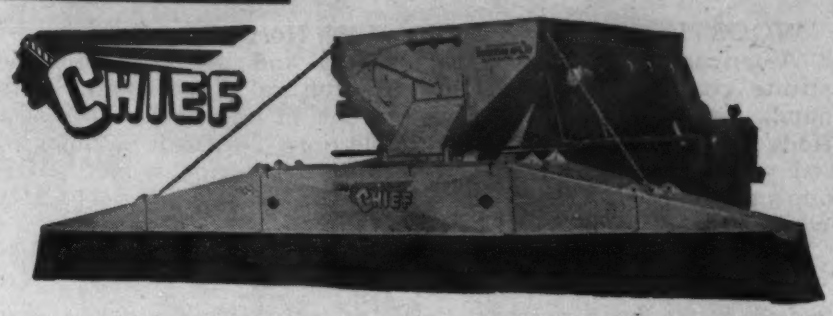

One sure way to sell more and more fertilizer and have more and more satisfied customers is to use the HENDERSON CHIEF, the spreader that has all the features you have always wanted and the spreader that has consistently outperformed all others.

LOOK AT THESE FEATURES:

- Wide 24" floor eliminates bridging with resultant spotty spreading.
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- Calibrated feed gate for accurate spreading control.
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- Heavy duty cold riveted conveyor chain.
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Deliver fertilizer faster, at lower cost with a Henderson Bulk Transport. Every feature is especially designed and efficiently engineered for easy, one-man operation — from the type and positioning of control to the self-unloading feature. Equipped with 14-ft. 156° swivel conveyor with advanced Hydra-Mech action which raises, lowers or folds conveyor vertically for transport. The Henderson name assures you a better built unit, stronger, more trouble-free with less maintenance.

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1. Eliminates costly bags, handling, and warehousing.
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3. Permits several trips per day with flexible, mobile self-unloading delivery service any where, any time. Saves man, work, time.
4. Eliminates demurrage and scheduling rail cars. Schedule your delivery to best suit the need and your convenience.
5. Self unload direct into Chief Spreaders to keep them moving in the field. Avoid delays.
6. Spotting Transport at job frees truck tractor to pick up another Transport load. Like having one truck with several bodies.

All steel, welded construction, streamlined corrosion-resisting hopper, with rounded front, tarpaulin hooks and catwalk. Hydraulically operated rear feedgate opening controls material flow. Entire door can swing open to handle other materials. Hydraulically operated adjustable false floor reduces weight on conveyor belt. 15 H.P. Wisconsin Motor and extra-heavy-duty chain (with oiler) drive conveyor belt.

If you handle bulk material, it will pay you to investigate.

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BUSY THREE DAYS

Ohio Pesticide Institute And Phytopath Division In Meetings at Wooster

WOOSTER, OHIO—Members of the North Central Division of the American Phytopathological Society and the Ohio Pesticide Institute converged on the Ohio Agricultural Experiment Station grounds here August 8-10, to mark one of the busiest three-day periods the institution has seen for some time. The plant pathologists' meetings were held during the entire three-day period, while the OPI group's activities occupied Tuesday and Wednesday, Aug. 9-10. Here is what each group did:

PHYTOPATHS

"We are in the flying saucer stage of systemics," Eric Sharvelle, Purdue University, told members of the north central division, American Phytopathological Society, at the group's summer meeting Aug. 8-10.

Dr. Sharvelle spoke at a banquet meeting at which members of the Ohio Pesticide Institute were guests. Nearly 200 were present for the combined affair.

"Systemics represent one of three horizons facing us," the phytopathologist declared. "Hormones and antibiotics are the others. Developing new uses for these materials presents a major challenge to all of us."

Dr. Sharvelle called for creation of a nationally organized steering committee on systemics to effect better coordination of research efforts. At the same time he challenged APS to assume a greater role of leadership in developing agricultural chemicals.

"We must realize that agriculture is the biggest basic industry of our nation," the speaker pointed out. "The annual income from farming is over $18 billion and is greater than the combined income from mining, autos, banking, rubber, tobacco, and forest products."

Officials of the north central division, APS, termed this eighth annual meeting of the group one of the most successful ever held. Fea-

(Continued on page 18)

O.P.I.

Demonstrations of new spray equipment and tours of experimental field plots at the Ohio Agricultural Experiment Station marked the annual meeting of the Ohio Pesticide Institute Aug. 9 and 10.

Of outstanding interest was the demonstration of a combination rotovator and soil treatment device designed by Frank Irons and Donald Black of the USDA field laboratory at Toledo, Ohio.

Spray nozzles were so arranged to place the liquid on the soil directly ahead of the rotovator blades. It is expected that the machine will be useful in treating soil infested with nematodes and other destructive organisms. Since the equipment is still in the experimental stage, Mr. Irons stated that no results could be given as yet from this year's tests.

Another piece of equipment also developed by the Toledo group was a low pressure-low gallonage spray for use with vegetables. Speed and accuracy of adjustment were two outstanding features as pointed out by Mr. Irons. The spray pressure could be adjusted from zero to 600 lb., which, together with changes in the speed of the machine, caused variation in droplet size.

Dr. J. D. Wilson of the Ohio Station's department of plant pathology said tests showed that a rate of 30-40 gal. of material per acre applied at 60 lb. pressure, was giving good results.

Dr. Wilson also told Pesticide Institute visitors that he was testing weaker than normal mixtures of Bordeaux plus adhesives and surfactants to increase the fungicidal properties of sprays. Because of the low incidence of disease in some vegetable crops this year at the Ohio Station, he reported that it was impossible to evaluate correctly some of the newer sprays.

Two other pieces of equipment demonstrated at the meeting were a band seeding drill adapted for application of granular insecticides at time of seeding, and a crop duster for use in treating corn for borers and ear worms. Dr. C. R. Weaver, forage crop specialist in the Station's department of entomology, stated that tests at Wooster showed good control of clover root weevil through use of granular material in the band seeding drill. Insecticide is placed in the fertilizer hopper and then is deposited in a narrow band underneath the seeds.

It was Dr. Weaver's opinion that granular insecticides put aerial applications on a par with ground applications. This type of material may eventually replace other types of aerial dusts, he said.

Populations of clover root borers were reduced from 85 to 90% by use of one-half or three-fourths pound of Aldrin per acre when applied in a granular carrier.

Dr. H. C. Young, associate chairman of the department of botany and plant pathology, Ohio Station, served as narrator of the first day's session. Dr. C. R. Neiswander, associate chairman of the entomology department, was in charge the second day.

On the last day of the meeting, the group had arranged to watch an experimental airplane apply sprays for potato blight at the Osborne St Farm near Sandusky. Unfavora weather, however, prevented demonstration.

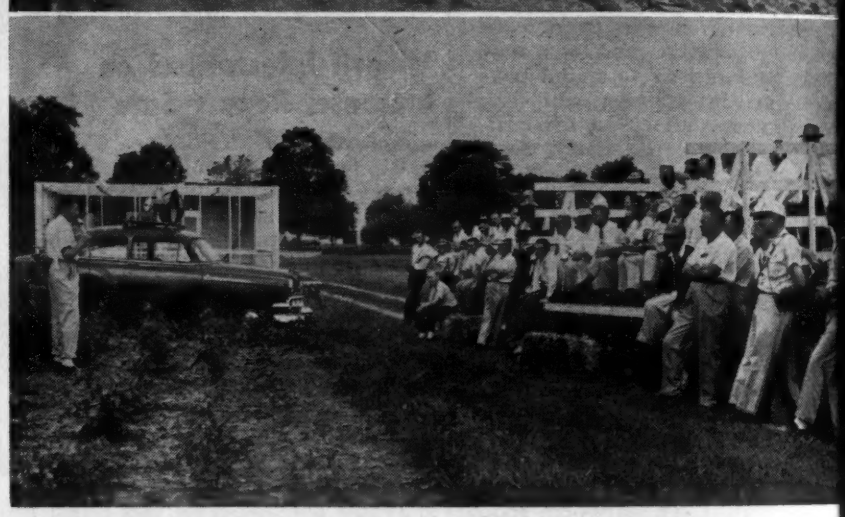
A project on the influence of sp variation on the quality of pot chipping was explained by Dr. W son. He said results from previ experiments showed no difference gardless of what spray was us Variety used in the test was Rus Rural. A shift to use of "Dithar brought an increase of 35 bu. an ac (Potato chip manufacturers usua prefer spuds of a high specific gra since they absorb less cooking fa

Frank Winter, Ohio patholog told OPI visitors that use of orga mercury and sulfur sprays for ap scab lowered the fruit set on 5-ye old Cortland apple trees. From standpoint of fruit clusters rema ing, Captan at the rate of 2 lb. 100 gal. gave best results.

Entomologist Dr. C. R. Cutri noted good control of European mites on apples from 10 different secticides. Two early season spr were used. Dr. Cutright noted t apple trees have the ability to st up under a great variety of sp treatments.

The Ohio Station is conducting

(Continued on page 23)



AT OHIO MEETING—Top photo: Geneticist Dr. E. F. Paddock (cente explains some of the steps in tomato breeding to Dr. Helen Hart, Univers of Minnesota, St. Paul, national president of the APS, while Dr. Paddoc associate, Dr. L. J. Alexander, looks on. Second photo: Phytopath membe on Ohio Station tour, listen to George Bart explain how the station is c ducting a host range study on oak wilt. Bottom photo: combination rotova and ground application sprayer being displayed at Ohio Pesticide Institu meeting. Equipment was designed by U.S. Department of Agriculture gineers at Toledo, Ohio.

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This year, fall applications of USS Ammonium Sulphate will be greater than ever before. Not only because agricultural colleges and state experimental stations have proven FALL application of ammonium sulphate a most practical way of supplementing nitrogen in the soil . . . but because the farmers themselves realize that this ammonia-type nitrogen carrier can be applied when they have more free time, and it won't leach out during the fall and winter months. This means that in the early spring, the nitrogen that crops need is already in the soil . . . ready to go to work. Farmers have seen the result of fall treatment with USS Ammonium Sulphate in bigger, more profitable crops on their own farms.

To help *your* sales, we are running 25 ads in 11 different farm magazines reminding nearly two and a half million farmers of the advantages in applying USS Ammonium Sulphate during the fall months. They will be looking to YOU to supply them with ALL they need WHEN they need it!

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To help you sell more USS Ammonium Sulphate, United States Steel has prepared four FREE folders and newspaper mats in 1 and 2 column sizes . . . promoting fall use of ammonium sulphate. They will give a personal touch to this BIG national promotion. Hand out the folders to each of your customers . . . use the mats in your local newspaper. It will mean *bigger sales* for you!

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UNITED STATES STEEL

Government Loan Law Is Improved

WASHINGTON, D.C. — Improvements in the insured loan program which helps farmers acquire and improve family-size farms will be made under Public Law 273, Secretary of Agriculture Ezra Taft Benson has announced. The new law was approved by President Eisenhower on Aug. 9.

"During the past fiscal year the volume of insured farm ownership loans was approximately 80% higher than the amount insured in any previous year," Secretary Benson said. "With the improvements which we requested and which have just been enacted into law, we expect the loans will be even more attractive as investments and this in turn will make more funds available to farmers who need this type of credit."

Public Law 273 makes the government the mortgagee for an insured farm ownership loan. The lender holds the note. Formerly, the lender was the mortgagee and held both the mortgage and the note.

As a result of this action the loans will no longer be classified as real estate loans, and lenders, like banks, who have limitations on the amount of real estate paper they may hold, can participate to a greater extent. It will also be easier for lenders to assign the loans, for it will no longer be necessary to prepare and record an assignment for each time a loan is transferred to another lender.

It will also eliminate the paperwork formerly required of lenders when requests were made for subordination of the mortgage or partial release of property secured by the mortgage.

Farmers will benefit from the change in the law to the extent that leaders increase their participation in the program. Farmers will also be able to get faster action on any steps they wish to take that require the consent of the holder of the mortgage, since it will not be necessary to contact the lender in the future.

Witco Establishes Los Angeles Headquarters

NEW YORK — Establishment of new headquarters in Los Angeles for the Western Division of Witco Chemical Co. was announced recently by S. M. Freeman, vice president of the division. The new offices are located at 3460 Wilshire Blvd.

LION OIL DIVIDEND

EL DORADO, ARK.—Directors of Lion Oil Co., have declared a regular quarterly dividend of 50¢ per share on the capital stock of that company to be paid Sept. 15, 1955, to holders of capital stock of record at the close of business Aug. 25, 1955.

Henry H. Allen

H. H. Allen, Retired Bemis Executive, Dies

HUNTINGTON, N.Y. — Henry Allen, 82, retired executive of Bemis Bro. Bag Co., died Aug. 13 his summer home near Huntingt N.Y.

When Mr. Allen retired in 1953 had completed an association of years with Bemis. He was a direc of the company for 41 years and vice president for 31. At his reti ment he was in charge of east operations.

The Allen family home is in N York City.

Mr. Allen joined Bemis in 1889 Omaha. Two years later, at the a of 19, he was made superintend of the Omaha plant. After nine ye of production work, he went to St. Louis plant as a salesman a was later transferred to the Kan City sales force. When a factory w built in Kansas City in 1903, Allen was made manager and sta in that position until 1911 when became manager of the St. Lo plant. A year later he was elec secretary of the company and membership on the board of dir tors.

In 1920 he was assigned to Brook to take charge of the new Be plant built there.

He was made a vice president 1921 and some years later was in charge of Bemis eastern ope tions with headquarters in New Y City.

Surviving are the widow, M Evelyn Allen, and a daughter, M Richard Hull Fay, both of New Yo

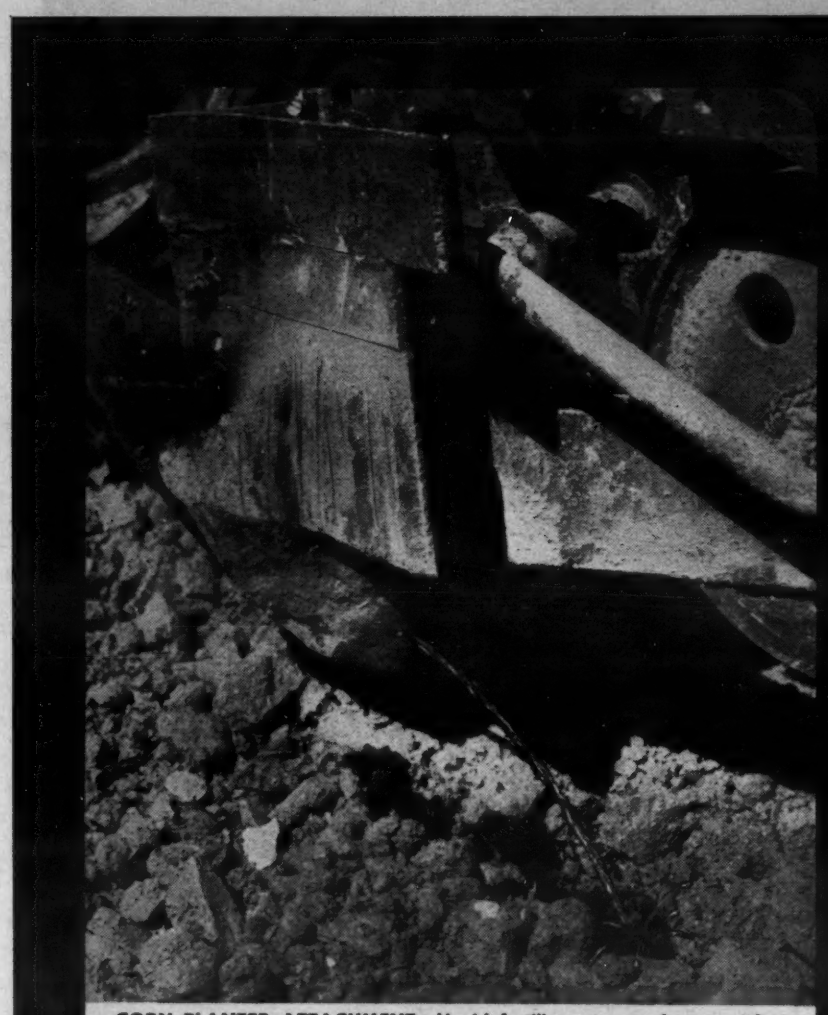
Funeral services in New York A 16 and burial at Rochester, N were arranged.

Control Outlined for Southwestern Corn Borer

FAYETTEVILLE, ARK.—Just years ago the southwestern c borer first invaded Arkansas, Franklin and Sebastian counties. last year, it had spread to 22 coun in the western part of the state. T destructive insect may cause a c plete loss of the crop in some ca according to a report on this p published by the University of A ansas' Agricultural Experiment S tion.

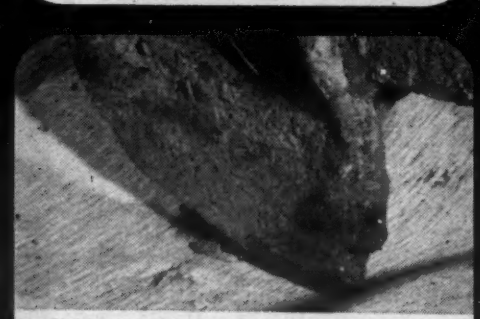
L. H. Rolston, formerly assist entomologist with the Experim Station, made a thorough study the habits of the insect during stages of its life cycle.

Exactly timed insecticide tr ments are effective in reducing los Mr. Rolston states. EPN, isodrin, endrin gave good results when a f application was made on the 9th after hatched eggs or eggs in blackhead stage were found, an second application was made on 17th day.



CULTIVATOR ATTACHMENT—With a rig like this, it's easy for a farmer to fertilize as he cultivates. Use of complete liquid fertilizer eliminates need for carrying heavy bags.

CORN PLANTER ATTACHMENT—Liquid fertilizer streams from modified corn planter shoe beneath corn as it is planted. Clod shield protects the tube feeding liquid. (Shoe is above ground for demonstration purposes.)



CLOSE-UP—The special attachment at bottom of shoe on corn planter delivers fertilizer into soil; permits application of liquid simultaneously with planting.

Liquid fertilizer progress report

New applicator equipment means longer selling season for liquid fertilizer formulators

New applicating equipment is doing much to level out historic spring-fall peaks in fertilizer application. Ease of liquid application encourages fertilizing almost any month of the year. Pictured above are two examples of equipment progress: (1) A new modification to permit application at time corn is planted, and (2) A cultivator attachment which permits side dressing of crops with liquid fertilizer.

AN ASSURED SUPPLY. Your supply of phosphatic fertilizer solution is assured by Monsanto, world's largest producer of elemental phosphorus. Formulators: Send today for booklet "Formulating Complete Liquid Fertilizers." Write MONSANTO CHEMICAL COMPANY, Inorganic Chemicals Division, 710 North Twelfth Boulevard, St. Louis 1, Missouri.

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SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

Selling and promotion ideas are rarely "invented" by one person, one store or by one organization. They develop cooperatively over the years, usually modified and adapted to the plan of each retailer or merchandising organization.

Every retailer has something to learn from other retailers in his field. Even more ideas are available from retailers and merchandising organizations not in his field.

The citrus industry, for example, has nothing in common with the farm chemical industry as far as products are concerned. But where merchandising ideas and progress are concerned the citrus industry's achievements rank among the leaders. What the citrus industry has done and is accomplishing can be accomplished in other fields, too.

Sales of Sunkist Growers, composed of cooperating citrus growers of California and Arizona, last year totaled $133 million. Sunkist's investment in advertising since 1908 is $75 million.

Sunkist Growers is a sales and merchandising organization. It was organized in 1893 primarily so that growers could obtain better sales outlets in the East. Today the group has 51 sales offices in the U.S. and Canada selling over 85,000 carloads of its products annually.

Sales Increase 50%

In 1908 the group ran a test advertising campaign in Iowa on citrus fruits. Sales increased 50% in Iowa, compared with a nationwide increase of only 17%. It was decided that advertising should be intensified after that year.

The group soon discovered that there were merchandising bottlenecks at wholesale and retail levels. A program of educating wholesalers and retailers thus began. Correct merchandising and sales procedures were set up. They weren't "invented" by Sunkist but were successful sales methods employed by leaders in various industries. This framework is still used by Sunkist today.

Some of the ideas for improving selling through the years are of interest.

Let Customer See

In the early days, retailers kept their oranges under the counter and would serve the customer only if he asked for oranges. It was found that oranges were put out in front of the counter so that the natural color and appetite appeal could be revealed, impulse buying increased greatly. Later, it was discovered that dump or bulk displays instead of the common formal pyramid type of display was more effective. (An idea for farm chemical dealers.)

Removing oranges from their wraps was also discovered to be a more effective way of displaying and selling. (Are you keeping open bags of fertilizer on display?)

The Sunkist group also found that it pays to advertise heaviest when the supplies are at their peak and when the demand is highest. (Department stores' outlay for advertising just prior to Christmas is heaviest because the demand for goods goes up at that time. It is a sound merchandising practice.)

Better display and better selling are primary objectives of the Sunkist group. When a very successful display is worked out, all retailers are told about it. For example, one Pacific Northwest store conducted a "boatload" sale, with a real boat, sailor hats and nautical decorations adding color to the sale. It was very successful and has been used as a model for other stores.

Better Selling

Better selling is, of course, the aim of all of Sunkist's activities and under this phase comes one of the most important functions in any merchandising program, that of proper pricing and margins. Any sales or advertising program can be sabotaged if the final seller does not offer proper value, the group states. A constant eye is kept on margins and whenever necessary ways and means of increasing tonnage and dollar profit are suggested. Literally millions of price calculators have been put out to the trade. These enable a dealer to immediately gauge his costs and also show a suggested selling price based on 25% margin on the selling price. This margin has been found to be acceptable to the trade since it allows a fair net profit to the dealer and still keeps the price within reach of the consumer.

The citrus industry's promotional activities have been cited as among the best and the farm chemical retailer can find in them many ideas he can adapt for his own store. An alert ear keyed to the tune of a successful promotion or sales gimmick used in another industry can mean extra dollars in the farm chemical dealer's cash register.

CLOSE COMPETITION

BAKERSFIELD, CAL. — Charges of reckless flying were filed against a crop duster pilot accused of participating in an aerial "dogfight" with another pilot near Arvin, Cal. Named in the complaint was Steve Straub, operator of an agricultural aviation firm, who is accused of making "fighter passes" on an aircraft flown by Ruben Rohrback, employed by a rival crop dusting concern. According to sheriff's reports, the incident is the latest in a series involving rival crop dusting operators. The Civil Aeronautics Authority is investigating.

Bulk Warehouse, Soil Testing Service, Weekly Ads Help Iowa Dealer Boost Fertilizer Volume

A new bulk fertilizer warehouse, with six bins, each 12 ft. wide, has enabled the Story County Farm Supply Co., Nevada, Iowa, to increase its business considerably, according to William J. Doty, manager.

The warehouse enables the firm to store several hundred tons of fertilizer, so that enough can be kept at hand for immediate need.

According to Mr. Doty, the firm does custom spreading with two spreaders at a charge of $1 per acre. With the new warehouse, however, the farmer who wishes to haul and spread his own fertilizer can come in and buy any quantity he wants.

During 1954 this company spread 11,000 acres, and expects to better this record in 1955. Last year the company sold a lot of 10-10-10 fertilizer for plowdown in fall at a rate of about 300 lb. per acre for corn land, states Mr. Doty. More and more farmers are realizing that they can have fertilizer spread and plowed under in fall and thus lessen the spring work load a great deal.

To encourage fall buying and spreading of fertilizer, the Story County Farm Supply Co. offers a 5% discount provided the farmer pays his bill within 10 days. This not only stimulates buying, but it brings in the cash. The company has eight salesmen who sell fertilizer, paint, insecticides, serums, petroleum products and biologicals. This wide range of products is an asset in outside selling, for it means that every farmer is likely to need one or more of the products in stock.

Farmers in this area buy up to 20 tons of fertilizer for their land annually, reports Mr. Doty, with the tendency being to increase tonnage each year based upon requirements. He states that fertilizer meetings held in the territory, with farmers attending, have done much to show farmers that recommended amounts of fertilizers are a good investment. The Story County Farm Supply, a farm bureau affiliate, has many such meetings during the fall and winter.

Last year, Mr. Doty joined a group advertising program in a Nevada newspaper. Once a week a group of merchants takes equal sized ads on a promotional page, featuring a different merchant writeup.

On the week Story County Farm Supply was featured in an article, there were two published pictures of the firm and its headquarters and this had a commanding position on the page ad. The article detailed operations of the firm and named the people connected with the company.

Mr. Doty reports that this weekly promotional page has done a great deal to tell the story of local business and its services to people in the Nevada trade area. The merchants plan to run this campaign for at least a year.

Another important service for farmers which the company established recently is soil testing. Farmers bring soil samples to the company which in turn ships them to Iowa State College at Ames for analysis. These tests come back within two to three weeks and give the farmer an accurate estimate of what his soils need.

"We urge every farmer to have his soil tested," states Mr. Doty, "for he then can see what experts think his soil needs. Soil tests sell a lot of fertilizer for us. More and more farmers, too, are realizing that this is the scientific way to proceed in a program designed to rebuild soils to high, profitable fertility."

SOILS AGENT ESTIMATES

5,000 Ton Increase in Fertilizer Use In North Dakota Worth $1½ Million

FARGO—An estimated 5,000-ton increase in commercial fertilizer sold in North Dakota for use in 1955 crop production could probably result in nearly $1½ million more income for farmers who applied it, believes Virgil Weiser, soils agent of North Dakota Agricultural College Extension Service.

On the basis of average results obtained with fertilizer in research work by NDAC Experiment Station and by hundreds of farm trials on which records were obtained by the Extension Service, farmers who use phosphate or nitrogen phosphate on fallow can expect nearly 5 bu. an acre higher yield. Actually, the average increase on the many trials summarized at NDAC is 4.6 bu. an acre. This is accomplished at a cost of about $2 an acre for fertilizer.

Mr. Weiser figures the 5,000 extra tons of fertilizer used this year will return about $1,440,000 more income above the cost of fertilizer.

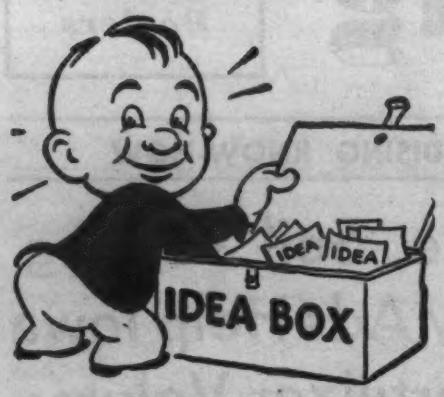
Fertilizer use in North Dakota this year, based on sales records, is estimated at 52,000 tons, compared with a little over 47,000 tons in 1954.

If average yield increases are obtained as indicated by trials in the state, the 52,000 tons used this year will bring a tremendous improvement in farm income.

In recent years, NDAC, through its Experiment Station and Extension Service, has conducted a statewide educational program encouraging the use of fertilizer, particularly phosphate. Profitable results have almost invariably been obtained through its use.

Yield has been only one of the advantages gained by phosphate fertilizer use. In recent years of stem rust phosphate has been a factor in bringing wheat to maturity at an

(Continued on page 11)



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 5253—Hand Fork Trucks

The "Hi-Low Stacker," a line of battery-powered, tilting fork hand trucks in 1,500, 2,000, 2,500 and 3,000-lb. capacities, 24-in. load center, has been added to the "Powrworker" series of hand trucks manufactured by the Clark Equipment Co. Equipped with telescopic channel uprights, the fork truck provides a free lift of 64 in. with an 83-in. overall height and a maximum fork height of 130 in. For highway truck loading, an overall height of 68 in. is also standard and provides a free lift of 49 in. with a maximum fork lift of 100 in. For further information check No. 5253 on the coupon and mail it to this publication.

No. 5232—Process Control

An electronic "watchdog," which is claimed to make it possible to test and control continuously an unlimited number of industrial processes from a single vantage point, has been developed by Fielden Instrument Division of Robertshaw-Fulton Controls Co. The new instrument, called an indicating scanner, monitors a variety of process variables involving level, temperature, thickness, mechanical movements, tolerances, weight and pressure. It will keep a steady check on six, 12, 24, 48 and more steps in a manufacturing process, the company says. Additional information may be obtained by checking No. 5232 on the coupon and mailing it to this publication.

No. 6294—Fertilizer Spreader

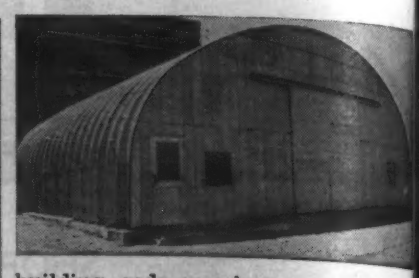
The Simonsen Manufacturing Co. announces the production of a bulk fertilizer spreader designed for use on high analysis fertilizer. The spreader has stainless steel components at various vital locations and employs stainless steel wire belt in conveying the fertilizer to the hydraulically operated distributing fan. Secure more complete information by checking No. 6294 on the coupon and mailing it.

No. 6296—Chemicals Booklet

"The Story of the Chemicals You Live By" is the title of a 24-page booklet published by the Diamond Alkali Co. It outlines how the company's chemicals are used in the agricultural chemicals field as well as in other industries. A section is devoted to "plants on parade," and shows pictures of the various company plants. The "behind the scenes" section shows pictures and descriptions of how the chemicals are produced. Secure the booklet without charge by checking No. 6296 on the coupon and dropping it in the mail.

No. 5222—Equipment Catalog

Just off the presses is the new 1955-56 catalog of the Seedburo Equipment Co. which illustrates and describes, according to the company, one of the largest lines of grain, feed and seed testing, grading and handling equipment ever offered to the trade. More than 200 pages of colored illustrations and descriptions are included in the book. A copy may be had by circling No. 5222 on the coupon and dropping it in the mail.



building code requirements and will withstand wind velocities up to 125 miles per hour. Straight-wall construction facilitates mechanized materials handling procedures involving palletization or similar stacking operations. Walls rise vertically to a height of 9 feet before curving to form a semi-circular roof. The building shown is 48 ft. wide; others range from 30 to 50 ft. in width, and from 12 to 18 ft. in height. Secure more complete details by checking No. 6288 on the coupon and mailing it to this publication.

No. 6287—Liquid Fertilizer

The Schrock Fertilizer Service has announced an addition to its fertilizer line. The product is a liquid fertilizer called Liqui-Green with Leaftone, and is said to contain a balanced combination of nitrogen, phosphate and potash as well as trace elements such as sulphur, magnesium, boron, zinc, cobalt, iron, copper, molybdenum and manganese. Leaftone is said to be a chemical additive to facilitate better leaf absorption and prevent burning. One gallon of the product can be used with 50 gallons of water. Fifty five gallon drums are available. Small sizes for retail sales will also be available, according to the company. Secure more complete details by checking No. 6287 on the coupon and dropping into the mail.

No. 6276—Bagging System

New developments concerning its 9-in. single-screw feeder overhead and standard Richardson E-50 automatic scale system as used in one fertilizer plant are now available from the Richardson Scale Co. The installation referred to is at the Knoxville (Tenn.) Fertilizer Co. Richardson officials say that two men can now bag with acceptable accuracies as many as 15 hundred lb. bags per minute of the lightest fertilizer and 16½ hundred lb. bags per minute of a slightly heavier product. Secure more complete details by checking No. 6276 on the coupon and mailing to Croplife.

No. 6286—Thiophene

Sharples Chemicals, Inc., a subsidiary of Pennsylvania Salt Manufacturing Co., has announced it is now supplying commercial quantities of thiophene for use in the manufacture of dyes and pharmaceuticals. Thiophene is expected soon to be used in agricultural chemicals and other products, the firm states. Samples and a technical bulletin on thiophene are available by checking No. 6286 on the coupon, mailing it to Croplife.

No. 6292—Fly Repellent

The Residex Corp. is now marketing a new Crag repellent formulation for biting flies on beef and dairy cattle. Resipel, as the product is called, combines Crag fly repellent and methoxychlor. One application is claimed to keep dairy and beef cattle free of horn flies, stable flies, horse flies, house flies, mosquitoes and gnats for well over one week—in both barn and pasture. The product, a liquid, is diluted with water before use and applied directly to the animal's hide. It may be sponged on or applied with

No. 6288—Steel Building

Development of a new "straight-wall" pre-fabricated steel building, featuring trussless construction, and designed to meet storage and warehousing needs of fertilizers and farm chemicals, is announced by the Engineering and Research division of the Wonder Building Corporation of America. It is claimed that the building can be erected in a matter of hours by as few as two workers using nut and bolt fasteners. Erection costs are said to average 30¢ per square foot and purchase costs are $1.25 per square foot, for a complete building.

Company spokesmen say that the structure is designed to meet all

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

Send me information on the items marked:

☐ No. 5222—Catalog	☐ No. 6285—Sprayer
☐ No. 5232—Process Control	☐ No. 6294—Spreader
☐ No. 5248—Blender	☐ No. 6295—Detector
☐ No. 5252—Stacker	☐ No. 6296—Booklet
☐ No. 5253—Hand Trucks	☐ No. 6286—Thiophene
☐ No. 6276—Bagging System	☐ No. 6287—Liquid fertilizer
☐ No. 6279—Pump	☐ No. 6288—Steel Building
☐ No. 6282—Screen Bulletin	☐ No. 6291—NH_3 Speedometer
☐ No. 6283—Aerosol Film	☐ No. 6292—Fly Repellent
☐ No. 6293—Heptachlor Booklet	

NAME .....

COMPANY .....

ADDRESS .....

—SLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL—

FIRST CLASS
PERMIT No. 2
(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67,

Reader Service Dept. Minneapolis 1, Minn.

ny normal spray equipment. It can lso be used on back rubbers and in readle sprayers. Resipel is now avail- ble at leading local agricultural ealers. Secure more complete de- ails by checking No. 6292 on the oupon and mailing it.

No. 6291—NH_3 Speedometer

New literature has been made vailable by the Stewart-Warner Corp. on a speedometer designed to e used for the application of anhy- rous ammonia (NH_3) or any fer- ilizer, insecticide or weed killer. The nit registers over-the-ground speed n miles per hours and any variation n speed is immediately reflected in he reading. It registers distance raveled in miles and can be installed n any wheel tractor, fertilizer or pray rig, or on any slow moving arm machinery. To secure the litera- ure, including price information, heck No. 6291 on the coupon, clip nd mail it to this publication.

No. 6293—Heptachlor Booklet

A new, pocket-size booklet show- ng cotton insects in natural color is ow available. The booklet which hows the boll weevil, cotton flea hop- er, thrip, rapid plant bug, tarnished lant bug, cutworm and armyworm ontains valuable information on cot- on insect control, the use of hep- achlor formulations and the rates f application, according to its pub- isher, the Velsicol Corp. Check No. 293 on the coupon, clip and mail it o secure the booklet.

No. 6295—Ammonia Leak Detector

A new pocket-size device for de- ecting ammonia leaks is being of- ered to ammonia users by the Nitro- en Division of Allied Chemical & Dye Corp. The device may be ob- ained free of charge by circling No. 295 on the coupon which appears lsewhere on this page and returning to this newspaper.

No. 6279—Pump

Hypro Engineering, Inc., is market- ng a portable pump weighing 26 lb., omplete with motor, hinged carry- ng handle and a vacuum switch that ermits untended operation. Its ca- acity is up to 5 gal. per minute with ressure up to 30 lb., and it is said to andle clean or dirty water with a inimum of clogging. It lifts water p to 10 ft. unprimed or 22 ft. primed. ecure more complete details by hecking No. 6279 on the coupon and ailing it.

No. 6282—Screen Bulletin

Publication of bulletin 243, a new ght-page, two-color bulletin describ- g the Symons V-Screen is an- ounced by Nordberg Manufacturing o. This screen is specifically de- gned for fine screening, for sizing, ewatering, dedusting, cleaning, and ashing. The bulletin states that the reen does not depend on gravity one for its screening action, com- ining centrifugal and gravitational rces. Details of construction and peration are given. Secure the bulle- n by checking No. 6282 on the upon and mailing it to this publica- on.

No. 6285—Sprayer

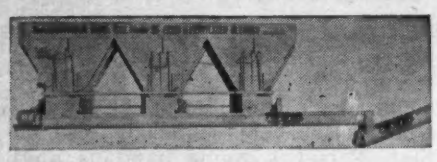
Two items have been added to the actor mounted and Estate sprayer es manufactured by the F. E. yers & Bro. Co. The extended line cludes a three point hitch tractor ounted sprayer and the Myers Baro- t, a wheelbarrow type power rayer. The three point hitch trac- tor mounted sprayer is designed for handling the wide range of chemical materials needed for weed, insect and disease control programs. A du-All spray pump provides pressures up to 300 lb. a sq. in. with discharge ca- pacity of 6 gal. a minute. Secure more complete details by checking No. 6285 on the coupon and mail- ing it.

No. 6283—Aerosol Film

"The Spray's the Thing" is the title of a new color film about aerosols produced by the E. I. du Pont de Nemours & Co. (Inc.). The animated 16 mm. color film shows how the aerosol insecticide ("bug bomb") principle can benefit a typical family. It runs 13½ min. To secure more in- formation about the film check No. 6283 on the coupon and drop it in the mail.

No. 5248—Blender

Automatic blending of feed or fer- tilizer in exact proportions is claimed for a new high speed batch or con- tinuous mix blender introduced by Baughman Manufacturing Co. The blender, designated as model 55, can also be pre-set to deliver any quan- tity of feed or fertilizer desired, automatically signaling or shutting itself off when the specified amount has been delivered, without pre- viously weighing the material, the company states. The unit consists of three hoppers, each of 49 cu. ft. capacity, emptying by conveyor belt



into a common auger-type conveyor tube, where the materials are mixed as they are conveyed to the cus- tomer's truck. Flow of ingredients from the hoppers is controlled by a gate which is set by a graduated scale to the required opening indi- cated by a blending chart mounted on the side of the unit. The blender can also be used as a batch mixer. The materials are weighed before being loaded into the hopper, the gates set and the mixing operation started, with all three hoppers emp- tying simultaneously. Special size units are also available. Secure more complete information by checking No. 5248 on the coupon and mailing it.

No. 5252—Stacker

A load handler called by the trade name, Grand Lift King, has been an- nounced by the Allied Manufacturing & Sales Co. The unit is described as a streamlined fork or platform lift stacker powered by one or two bat- teries. Fourteen models with load capacities of 750-3,000 lb. are avail- able. Lifting heights range from 60- 100 in. Full information may be ob- tained by checking No. 5252 on the coupon and mailing it.

5,000 TONS

(Continued from page 9)

earlier date and, thus, reducing the extent of damage done by rust.

Tests to determine phosphate needs of soils in North Dakota have been conducted the past two years on a limited basis by NDAC Experiment Station as a service to farmers. County extension agents have con- ducted numerous demonstrations on taking the soil samples and have been assisting farmers in soil sampling. Recently, the Experiment Station an- nounced its soil testing service will be expanded and fees for making the tests have been reduced, Mr. Weiser reports.

What's Been Happening?

This column, a review of news re- ported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

USDA hinted that because of a larger-than-expected cotton crop this year, further acreage reductions may be necessary, effective next season. A total of 17 million acres may be planted, as compared to 18 million this year. . . . The Food and Drug Administration reported that chemical firms have a tendency to request tolerances higher than may be allowed safely.

Shell Chemical Corp., New York, announced a reduction in the price of its soil fumigant, D-D, from $1.20 a gallon to $1. . . . Strikes against Heyden Chemical Co. and American Agricultural Chemical Co. were ended on Aug. 8.

Gen. J. E. Hull, USA, retired, was elected president of the Manufacturing Chemists' Assn. He had served in the U.S. army for 37 years, holding many responsible posts.

Lion Oil Co. reported a gain of 29% over the first half of 1954. Income for first six months of 1955 was $7,816,987 as compared to $6,067,300 last year. . . . Dow Chemical Co., Midland, Mich., also reported a new sales record for its 1955 fiscal year. The new figure was $470,742,000 as compared to sales of $428 million made last year.

Food and Drug Administration assigned tolerances to two pesticidal materials, heptachlor and captan. Residues of 0.1 and 20 ppm respectively, were allowed. . . . An opportunity for added sales volume was seen in the cotton acreage allocation situation. Some 18 million acres of cotton are ex- pected to be planted for next season.

U.S. Potash Co. approved expenditure of $3 million for explora- tion leading to greater output from its mines near Carlsbad, N.M. . . . Nichols Fertilizer & Chemical Co. purchased the Oklahoma Fertilizer & Chemical Co., Oklahoma City. . . . The American Potash Institute, Washington, D.C., announced that deliveries of K_2O during the fiscal year of June, 1954, through May, 1955, totaled 2,164,997 tons, a new record. The figure was 8% greater than the previous fiscal year record.

Stauffer Chemical Co. announced that its expanded captan plant in Perry, Ohio, is now in operation. With the added output, the plant's annual production is rated at 12 million pounds a year. . . . Richard F. Brown was named a vice president and general works manager of Spencer Chemical Co., Kansas City, Mo.

William B. Porterfield, Jr., was named vice president of National Potash Co. He was formerly associated with U.S. Potash Co., New York. . . . Wallace E. Gordon was named director of advertising for E. I. duPont de Nemours & Co., Inc., Wilmington, Del. He was formerly with duPont's Grasselli Chemi- cals Dept. as assistant director of sales.

Directors of Monsanto Chemical Co., St. Louis, and Lion Oil Co., El Dorado, Ark., signed an agreement of merger of Lion with and into Monsanto. Stockholders of the two companies will vote on the proposal Sept. 23. . . . The anhydrous ammonia industry is operating at only about one fourth of its potential, speakers said at the meeting of the Great Plains Anhydrous Am- monia Assn.

A survey conducted by the Agricultural Ammonia Institute indicated that use of anhydrous during the first five months of this year is 17% greater than during the corresponding period a year ago.

Formation of Phillips Pacific Chemical Co., which will erect an ammonia fertilizer plant in southeastern Washington, was announced by Phillips Petroleum Co. and Pacific Northwest Pipeline Corp., which will jointly own the newly-formed firm. . . . Shell Chemical Co. announced plans to build a new urea plant at Ventura, Cal.

The Food & Drug Administration extended the effective date of the pesticide tolerance amendment to Oct. 31. The former deadline was July 22.

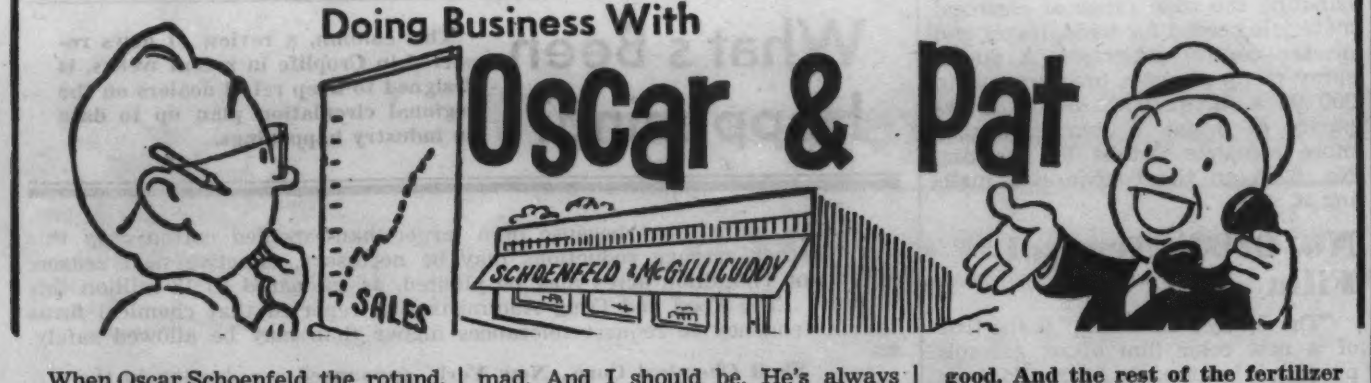
Monsanto Chemical Co. announced it will market agricultural chemical formulations under the Monsanto label in a 15 state mid- western area beginning in 1956. . . . Southwest Agro Chemical Corp. said it will build a $2½ million plant at Chandler, Ariz. for production of anhydrous ammonia and other nitrogen products.

A harmonious meeting on the grain sanitation campaign, conducted by the U.S. Department of Agriculture, appeared to point toward a smoother path for pesticide sales in the clean grain drive. . . . Pakistan was awarded a $1,046,452 grant by International Cooperation Administration for equipment for a fertilizer factory.

Cities Service Co. and Continental Oil Co. have joined Mid-South Chemical Co. An expansion program calls for erection of an an- hydrous plant at Lake Charles, La. . . . Western Phosphates has de- veloped plans for expansion of its treble superphosphate and ammoni- ated phophate plant at Garfield, Utah.

The sixth annual Pacific Northwest Fertilizer Conference at Boise, Idaho, June 28-30, featured speakers from USDA, agricultural colleges, and custom operators from the western area. Reports were heard on fertility studies. . . . U.S. Tariff Commission reported that production of all pesticides and other organic chemicals in 1954 totaled 419 million pounds, an increase of 18% over the 356 million pounds reported for 1953.

Thunderbird Chemicals, Inc., announced plans for construction of a $13 million anhydrous ammonia plant near Kyrene, Ariz. President of the new firm is Fred Shanaman, also president of Pennsylvania Salt Mfg. Co., of Washington. A plant site of 122½ acres has been procured.



When Oscar Schoenfeld, the rotund, penny watching partner in the firm of Schoenfeld & McGillicuddy, came back from lunch, he noticed that his partner Pat had already left. Oscar usually went to lunch from 11:30 a.m. to 12:30 p.m., and Pat from then until 1:30 p.m. In this way, one of the partners was in the store practically all day long. Tillie Mason, the plumpish bookkeeper, usually ate her lunch in the office.

Oscar always had a set pattern of activity when he got back from lunch. It was also a repetition of a habit he used every morning, or if he came in after an hour's absence visiting a farmer. This latter he did very seldom, for he liked to stick close to the office.

The habit was to walk all around the office, peering here and there on the desks, the counters, like a bird dog sniffing for a prairie chicken. And Oscar's grey eyes were always suspicious. It was as though he were looking for evidence that someone had slipped something over on the firm while he was gone, or worse yet, had wasted material, time or money.

This sniffing, or nosiness, always got Tillie Mason nervous. She froze up when Oscar came sniffing around her desk, and could hardly wait until he moved to his own desk, the last step in the routine.

Now, however, she noticed that Oscar was stopping an unusually long time at Pat's desk, looking at a wide double page newspaper ad layout, which was only half finished.

Oscar let a snort out of his nose as if he had been stuck with an ice pick. "N-no!" he roared. "Not another ad! And a double pager at that. Has Pat gone crazy? Tillie, I have a good mind to tear it up in little pieces and throw it away."

Tillie Mason swallowed hard, got up from her desk and came forward. "Oh-oh, don't do that, Oscar," she said timidly. "Pat—Pat would get awful mad." Already she was visioning the battle that would take place if Pat came back from lunch and found his ad torn up.

"Mad!" echoed Oscar, his face almost purple. "I'm the one who is mad. And I should be. He's always spending money for ads and promotions. Tillie, a leopard doesn't change its spots. Once a spender always a spender. That's Pat. He promises to cut down time and again. And then he goes right on spending like—like a drunken sailor."

"That's why it's a good thing he's got a partner like you," Tillie said, trying to throw oil on troubled waters. "This ad looks like a good one. It advises farmers to fertilize this fall, and gives the reasons why they'll save money and labor by doing the job now. And," she picked up a page of copy, "he quotes professors from the university who say it's a good thing to store fertilizer in the soil instead of in sheds, so it can work for a farmer quickly in more ways than one."

"But he doesn't need two pages to tell the farmers THAT!" Oscar bellowed indignantly. "He could get that all in a one column 10-inch ad! Why buy the whole darn newspaper?"

"I don't know," Tillie said in a low voice. "He must have his reasons."

"Reason!" Oscar thundered. "He doesn't even know the meaning of the word."

Thus he went on raving, until Tillie went back to her desk, took an ulcer powder and tried to work on a trial balance. Oscar fidgeted and fumed at his desk, muttering to himself, until Pat came in from lunch.

"Pat," yelled Oscar heatedly. "Have you lost your mind? We can't afford a 2-page ad. We haven't so much money we can throw it away."

The happy, easy manner with which Pat came into the office seemed to retreat considerably. "So, you've been lookin' over me desk, begorra," he said, dropping into the Irish brogue which he always did when agitated.

"I've got to watch the pennies around here," Oscar said bitterly. "If I didn't, nobody else would, I can tell you that. A 2-page ad—phooey."

For a moment, Pat was silent. He sat at his desk and straightened the ad layout and studied it. One could almost hear him count to 10, which his good wife Nora said he should do when having an argument with Oscar.

"Oscar," he said finally, "you missed your calling. You should have been a banker."

"If I was I would sure bring a lot of these borrowers to their senses," Oscar promised. "I would call their overdue loans in a hurry and bring those fellows down a peg or two. I'd teach them how to handle money. Some people never learn that." This last with a stony glare at his partner.

Pat chuckled. "Now, Oscar, I am just going to show you how wrong you are on this ad deal."

"Huh, I suppose you're going to tell me this isn't going to cost us a cent."

"N-no," Pat said, a little taken back. "But this complete two page fall fertilization program ad is costing us only $10. Nineteen other dealers I visited are each paying $10. Remember, in unity there is strength. This ad can do us all some good. And the rest of the fertilizer dealers know it."

"Huh," said Oscar doubtfully. "They'll get the orders, not us, I'll bet."

"All of us are going to post reprints of this big ad in our offices and salesrooms and have 100 extra copies to pass out to those who want them," Pat said enthusiastically. "It's the biggest fertilizer promotion ad in this county's history."

Oscar frowned. "And you took a lot of time to visit these dealers and talk to them—when you could be out selling and collecting—for us?"

"Well, yes," admitted Pat. "I collected some, and when I got close to a dealer's place of business I called on him. Oscar, this is going to lead to the formation of a district fertilizer dealer club. We'll benefit from that, too. Maybe we can minimize the spring price cutting that goes on every year."

"Huh," growled Oscar. "Let them worry about their business. We'll worry about ours. And if they form a club, don't you get sucked in on any official's job. Let somebody else do that. Nobody's gonna hand us anything on a platter. We've got to work for it."

A faraway look came into Pat's blue eyes. "You're right, Oscar, we've got to work for what we get. Only your way of working and mine aren't always the same. I wonder—"

"You wonder what?"

"I wonder," Pat said slowly. "Which one of us is right?"

NEW RESIDUE TESTER?

BELTSVILLE, MD.—Insect pathologists at the USDA Research Center here are hopeful that brine shrimp may be an effective help in detecting the presence of insecticide residues. They say that brine shrimp react to extremely small amounts of several insecticides even when the toxicants are greatly diluted in either fresh or salt water. These shrimp are about one-eighth inch long and do not need to be maintained alive in the laboratory. The eggs can be stored for several years under normal laboratory conditions. Tests indicate that brine shrimp are sensitive to solutions containing as little as 1 part of insecticide to 100 million parts solution. They reacted to all of the insecticides tested including chlordane DDD, DDT, lindane, methoxychlor, and to toxaphene in extremely diluted form.

Potato Land Needs Extra Phosphorus, Wisconsin Tests Show

MADISON—Fertilizer with plenty of phosphorus is important for potatoes—even on fertile potato soil.

In last year's tests, K. C. Berger and Peter Wallendal, University of Wisconsin soils research workers, got the best yields by broadcasting 20 lb. copper oxide before planting and putting 1,000 lb. 5-20-20 fertilizer in the row.

Plots fertilized that way gave a yield of 585 bu. per acre. All the potassium used in this test was in the sulfate form.

These tests were conducted on a Vilas sandy soil which was high in phosphorus. However, the high phosphorus fertilizer was still needed. Fertilizers like 10-10-10 or 6-6-18 gave lower yields.

Marketing Consultant Firm Organized

TOLEDO — Announcement has been made of the formation of Pickett-Anthes, Inc., here. The firm will offer a marketing consultant service for manufacturers and distributors of consumer goods, particularly those sold to the farm trade or through retail stores.

Officers of the new firm are E. H. Kieser, president; L. C. Anthes, vice president and treasurer; Marshall Pickett, vice president and secretary.

PROFITS—Home from his freshman year at college, Jack Armstrong, 17-year-old Sangamon County, Ill., lad found waiting for him a ton of Ammo-Phos high analysis fertilizer. He promptly began side dressing his tomatoes, the profits from which will return him to college this fall. The fertilizer is the latest in a series of awards Jack has won for vegetable growing. He received this award from Olin Mathieson Chemical Corp. for winning the national production and marketing contest of the National Junior Vegetable Growers Assn. Last year he grossed $1,008 from an acre and a half of vegetables which he sold to nearby stores, cafeterias and for home canning. His net profit was around $600 but with $175 which he allowed for his own labor and nearly $300 in prize money from fairs, his total actual income was over $1,000.

Midwest Stations Continue Work on Corn Borer Control

AMES, IOWA — The anti-corn borer campaign continues to roll, and here are some of the things scientists at the Iowa Agricultural Experiment Station are doing:

1. A regional project studying the effect of plant growth on borer establishment and damage is being carried on cooperatively among experiment stations in Ohio, Minnesota and Iowa. They are also studying how various levels of borer population affect yields.

2. Work on insecticide application equipment is being directed by agricultural engineers at Iowa State College. Emphasis is placed on use of equipment for applying granules and testing application procedures for second-brood borer control.

3. Other work is directed at learning more about the parasites, predators and diseases of the pest.

4. The life habits of the borer are being studied by scientists on test plots in Boone County to get more information on the biology of the corn borer.

5. New insecticides are being screened in the laboratory. Those found effective will be further evaluated in small test plots. The promising insecticides will be applied to field-scale plots to determine their value for farm use.

6. Development of resistant strains of corn is one of the most important aspects of the anti-corn borer program. Agronomists and entomologists are cooperating in this work.

CORN WEED CHEMICALS

ST. PAUL—The University of Minnesota's Agricultural Experiment Station and other Midwest stations found in 1954 that selective sprays of the dinitro—DN—type, such as Premerge or Sinox PE, improve control of annual grasses and broadleaved weeds in corn.

FARM SERVICE DATA
Extension Station Reports

though Indiana is considered a with plenty of rainfall, there is th enough in the state some- e each year to damage hay and re crops. Three years of re- ch at Purdue University have n that irrigation will almost al- s add profitably to hay crop pro- ion.

creases have varied from 1,850 lb. per acre to as much as 6,700 lb. acre, in the tests by Purdue nomists during the last three s. The agronomists reported that fa under irrigation can be expect- o yield five to six tons of hay to cre.

rigation also greatly increased carrying capacity of pastures for p and beef cattle during the 1953 1954 grazing seasons. In addition, ermitted good stands of legume- s mixtures from late-summer ings, regardless of the length of th. About two million acres of rally drouthy soils can be found ndiana, the Purdue agronomists t out.

★

eld and vegetable crops have ing copper needs, report soils re- ch workers at the University of consin. Working with a a copper- cient peat soil in Juneau County, research workers learned that e plants such as barley, wheat, field corn, carrots, red beets, ns, spinach, alfalfa and cabbage very high copper requirements.

When copper was applied in fer- zer on deficient soils, these crops ponded with much higher yields.

ybeans, red clover, green beans, toes and tomatoes have a medium er requirement, the tests re- d. Celery, lima beans, turnips radishes showed the least re- se to copper fertilization. In gen- copper deficiency symptoms first up on the younger parts of the t. These parts don't grow as tall ormal, usually become grayish- n, and then die back.

★

rmers cooperating in the Uni- ty of Minnesota's Southeast and hwest Farm Management Serv- about 25 counties are represent- maintain one and a half times as of their tillable land in hay pasture as the average for their And these farmers are among most progressive and far-sighted. actual figures: in southeastern nesota, service members kept an age 32% of their land in hay and re. Area average: 23%.

★

second treatment with 2,4-D soon harvest to control perennial sow le and Canada thistle is recom- ed by R. B. Widdifield, North ta Agricultural College extension ce agronomist.

Where either of these weeds is ing in a grain crop, the first ap- tion of 2,4-D last spring should killed the tops back to the nd. However, the thistles come gain and as they grow rapidly harvest they are likely to pro- seed before frost.

second application of 2,4-D d be applied to perennial sow le and Canada thistle soon after esting the grain when they are e rosette stage, or when a good regrowth has occurred. As there is no crop growing at this time to be injured, a heavier rate of 2,4-D of from ¾ to 1 lb. per acre can be applied. At least 10 days should be allowed after applying the 2,4-D before the field is disturbed, after which plowing or other cultivation could be carried out. In non-crop areas, thistles should also be treated with this second heavier application of 2,4-D."

On relatively large areas of thistles, he says, about the most effective control program consists of two treatments per year of 2,4-D carried out over two or three successive seasons, together with a thorough job of summerfallow or clean row crops included periodically in the crop rotation. This treatment gradually weakens the thistles and some farmers have reported almost complete eradication in two to four-year period.

★

The success with which alfalfa can be established on nearly every Missouri farm depends largely upon soil treatments made prior to seeding, says Marshall Christy, University of Missouri extension soils specialist.

In fact, soils which were once thought to be entirely unsuited for alfalfa are now producing high yields when properly treated with fertilizers.

In order that the stand can get off to a good start, a starter fertilizer containing nitrogen, phosphate and potash is needed. A minimum of 30 to 40 lb. each of soluble phosphate and potash in a mixed fertilizer works well, Mr. Christy says.

Even though alfalfa is a legume, it has limited ability to fix nitrogen for several weeks after seeding. Therefore, nitrogen helps establish a vigorous plant stand, getting it off to a good winter start, and also helps

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produce a high first-year yield.

Mr. Christy recommends the use of up to 40 lb. an acre on average soils. On fields with low organic matter, it may be desirable to use 50 lb. or more. Other soils with high organic tests may need only 30 lb. actual nitrogen an acre.

★

Topdressing alfalfa fields with fertilizer every year brings a good return right away in the form of better hay yields, report research men at the University of Wisconsin. And it saves fertilizer over a period of years.

They've topdressed alfalfa-brome fields at the Spooner Branch Experiment Station with 300 lb. fertilizer each year since 1949. For comparison, they left similar stands unfertilized.

The topdressed fields have been making more than 4 tons of mixed hay every year, while unfertilized fields have yielded less than 3. The increased yield from treated plots the first year was enough to pay the fertilizer bill the second year.

★

In describing the possibilities of pasture renovation, Iowa agronomists cite this case of a farmer on rough land in Tama County. In 1952 he had a little over 60 acres of hilly grass pasture. He grazed 140 head of ewes and 17 beef cows on that acreage.

In 1955, with those acres of grass now improved by renovation and trefoil, he has 340 head of ewes and 35 head of beef cattle. Other farmers report the same kind of results.

★

Wisconsin farmers are getting a third cutting of hay in favorable seasons through the teamwork of high soil fertility and wilt-resistant, winter-hardy varieties of alfalfa.

Dale Smith, University of Wisconsin agronomist, reports that the new wilt-resistant varieties, Vernal and Ranger, are giving farmers greater latitude in management. This makes possible the three hay cuttings.

He suggests these steps for farmers who have large alfalfa acreages on fertile and fairly fertile land and who need a third cutting:

1. Use either Ranger or Vernal certified seed.

2. Maintain high soil fertility by adequate fertilization at seeding and by topdressing at least every other year.

3. Spray the second hay crop with an insecticide not harmful to animals.

4. Remove the third cutting by the first week in September or delay it until October.

★

Results of 30 years of soil fertility experiments at the Columbus experiment field in southeastern Kansas are reviewed in a new bulletin by Dr. F. W. Smith, F. E. Davidson, and V. H. Peterson.

The 30 years of research showed, among other things, that in the Columbus area:

Corn benefits from lime, barnyard manure, potash. Flax benefits from legumes, barnyard manure. Wheat and oats benefit from lime, phosphate, barnyard manure.

Alfalfa yields for the entire period definitely indicate a lime deficiency in the soil. Alfalfa responded well to phosphate and barnyard manure.

Yields from unfertilized plots indicate a general decline in soil fertility during the 30 years. However, yields of crops under good soil management, using fertilizers and lime, increased the general productivity of the soil.

Pink Bollworm Control Set Up In Missouri Area

KENNETT, MO.—Plans for a program aimed at preventing the spread of the pink bollworm in Southeast Missouri cotton fields were developed when state and Federal officials with area cotton producers and ginners met here recently.

The group approved a two-part program suggested by L. C. Carpenter, Missouri Commissioner of Agriculture.

The program includes:

1. The setting up of at least three highway check stations on main highway entrances where mechanical cotton pickers, trucks and vehicles carrying migrant workers would be stopped and investigated for the devastating bollworm.

2. The employment of a fulltime entomologist to check Southeast Missouri gins and cotton fields for signs of bollworm infestation.

Mr. Carpenter said the State Department of Agriculture plans to have the program in operation by Aug. 15. It will be financed during the next two years by a $75,000 appropriation approved this spring by the Missouri General Assembly.

H. L. Alford of Alexandria, La., area pink bollworm control leader for the U.S. Department of Agriculture, said last year 19 bollworms were found in Arkansas and 37 in Louisiana. He credited the low infestation to control measure being taken in quarantined areas of the states.

These areas are near the borders of Texas and Oklahoma, the two states from which the bollworm has spread eastward in recent years. Mr. Alford said, however, that this year the bollworm infestation of cotton blooms in Southern Texas area has been found to be heavier than last year.

Paul H. Milliar of Little Rock. chief inspector for the Arkansas Plant Board, told of measure being taken in Arkansas to control and prevent the spread of the deadly cotton pest.

Mr. Milliar said that in the 28 Arkansas counties which have been quarantined because of the bollworms, all cotton field stalks and gin trash must be destroyed, and gins have been required to install sterilization equipment.

Kemper Bruton of Blytheville, Ark., manager of the Arkansas-Missouri Ginners Assn., said his group feels that the "big problem" is not preventing the worm from being carried in vehicles or workers' picksacks, but in the flight of the pink bollworm moth.

He noted the moth can be carried by wind currents from the infested areas of Oklahoma and Texas into Arkansas and Missouri, where the moth will lay its eggs in cotton balls.

Nitrogen Boosts Grass Output, Soils Man Says

FARGO — Nitrogen fertilizers applied on pure stands of grass can double or triple production of forage and increase the protein content, according to Virgil L. Weiser, North Dakota Agricultural College Extension Service soils agent. He believes good economic returns can be obtained on many old grass stands by use of nitrogen fertilizer.

Trials by NDAC Experiment Station with different rates of nitrogen application indicate 100 to 130 lb. nitrogen per acre in the eastern part of the state and 60 to 100 lb. in the western part of the state should be applied. Fall applications give better results than spring applications.

RINGING THE cash register

Merchandising Hints for The Retailer

Try a Red Light

If you have a special promotion or display in a particu section of your store you can attract added attention changing the light bulbs or tubes which are loca directly above or near the display. Instead of the us white or yellow lights, replace with red or green lig Change the lights back to the normal bulbs when promotion is over and the display has been taken do

Cutting Wage Costs

One super market chain has lowered its wage cost fr 7.5% of sales in 1950 to 6.5% in 1954 and expects t in 1960 labor costs will be 5% of sales. The cuts in la costs are being achieved in this manner: Once a ma hired and trained through a combination of on-the- training and special "clinics," his work is constan viewed in the light of two questions, "How can his be made easier?" and "How much will he cost?" policy is credited with accomplishing a better merch dising job, higher volume, a start toward the use of lab saving devices and better store layout.

You're Not Endowed

A cash, or clearly defined credit policy is the only so basis for any service, a b letin from one manufactu in the feed industry states. bulletin continues: "In every c munity there are, of course, m substantial, dependable farm who could easily be short of ca and who must wait for their cre checks or other income from m hogs, cattle, produce, etc. S cases are a matter for their judgment. The point is that (the dealer) are not an 'endo institution'—you must have cash if you expect to stay in b ness and render the service."

Island Displays

Grocery store merchandising has adopted the princi If the customer doesn't see the merchandise he will p it up. While this may not apply basically to the custo who comes in for fertilizer, it certainly applies to al lines. Successful merchandisers make excellent use island displays where many allied products can be played. Islands are efficient because their four side arranged with merchandise—are visible to the custo And if the customer can see the merchandise, prop identified and prominently priced he is more inclined buy. It's certain he won't buy what he can't see.

Customer Records

Dealers who are keeping records this summer of w kind and quantity of feeds and fertilizer are used results obtained will have a tremendous sales tool ha when contacting farmers for next year's orders. F like these, carefully posted on customer cards, and viewed before making a farm call, will impress the far and often refresh his memory on the success he has with the dealer's products. Dealers who have not es lished such a system can still do so this season and h it in full use by next spring and summer.

Pre-Packaging Signs

Where the retailer is able to use pre-packaging the in which this merchandise is sold should be marked w signs containing explanatory slogans. These might Pre-packaged for your convenience; pre-packaged weighed for your convenience; weighed and priced marked; handy package for your convenience; select y own; save time—pre-packaged for your convenience pre-packaged at no extra cost to you.

Point-of-Sale Displays

Do point-of-sale displays really pay off? There are m dealers who answer that question negatively by tos a large percentage of point-of-purchase material into wastebasket. However, there is no disputing the valu coordinating point-of-purchase displays to complem the dealer's own advertising efforts or that sponso nationally by manufacturers which supply him. Altho there are no definite statistics on sales which have b made by the use of point-of-sale material, certain veys have shown that the removal of point-of-purch displays from stores has cut sales as much as 26%.

Better Selling
Richer Sales Fields for Dealers

BUG OF THE WEEK

Mr. Dealer--Cut out this page for your bulletin board

Khapra Beetle

How to Identify

The adult khapra beetles are small (from 1.8 to 3.0 mm. in length), pale red-brown to dark brown or black in color. Although it is hairy on top, the hairs are often rubbed off which gives the adult a slick appearance. The larvae, as shown above, are yellowish brown, clothed with long, brown hairs. The underside of the body is pale yellow and when viewed from above, the arrangement of segments gives the larvae a ringed appearance.

Habits of the Beetle

The pest thrives in areas of relatively high temperatures, with the optimum being between 90° and 99° F., although the upper limit for their development has been placed at 104° F. Larvae cease to develop at 46° but on the other hand, can resist temperatures as low as 14° for short periods. Adult females lay up to 126 eggs. The life cycle varies in length from 4 to 6 weeks to several years, depending upon temperature and food supply. There may be as many as 12 generations a year in India, where it is a native. Larvae are highly resistant to starvation and can live for months or even years without food. It has but feeble powers of migration, so its spread has been through avenues of trade.

Damage Done by Beetle

Stored grain damaged by khapra beetle looks as if it had been infested by the lesser grain borer. Khapra beetles not only live on grain, but they also contaminate grain by leaving quantities of barbed hairs which are said to be a serious menace to humans if swallowed. Khapra beetle damage to stored grain is complete, as illustrated by the example of a California warehouse which despite its efforts to control the beetle, finally wrote off as a total loss, some 300 tons of grain. In addition, the firm abandoned the warehouse for grain storage purposes.

Control of Khapra Beetle

The insect itself is not materially more resistant to fumigants and residual insecticide sprays than are many other stored grain pests. But it is still more difficult to control because of the habit of larvae crowding into spaces in the structure of buildings and bins, where it is almost impossible to reach them with sprays or fumigants. Little success has been achieved so far in eradicating this insect from premises that become infested. The establishment of quarantines to restrict movement of grain between areas where the beetle is known to exist and those thought to be free from the pest is regarded as one means of controlling the spread of the insect. The transportation of infested grain, feed, or seed in railway box cars can result in the wholesale contamination of the rolling stock of the country, with the danger that infestation will spread throughout the country, a representative of the U.S. Department of Agriculture has observed.

Photos of khapra beetle furnished Croplife through courtesy of the U.S. Department of Agriculture.

Previous "Bug of the Week" features are being reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.

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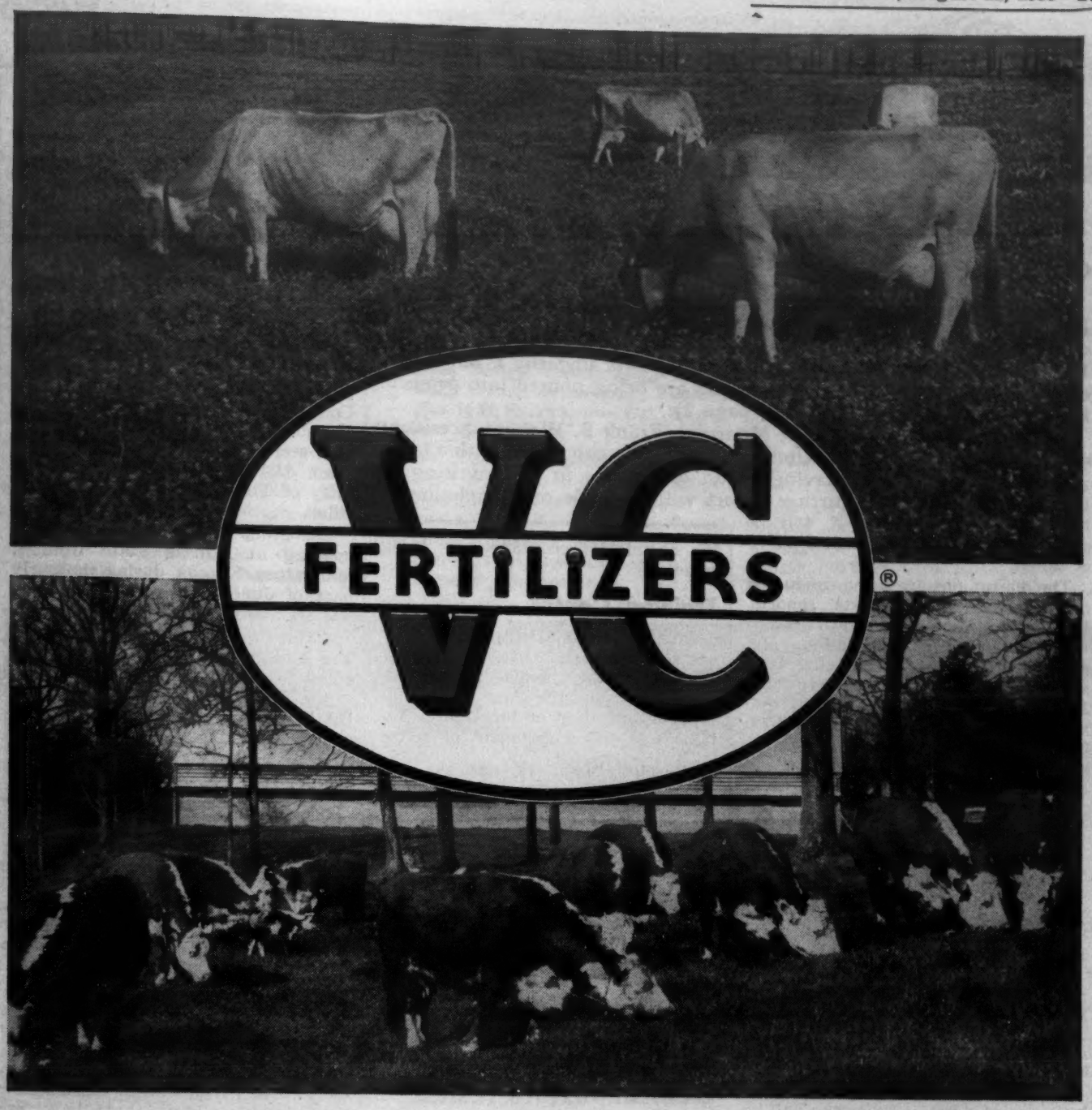

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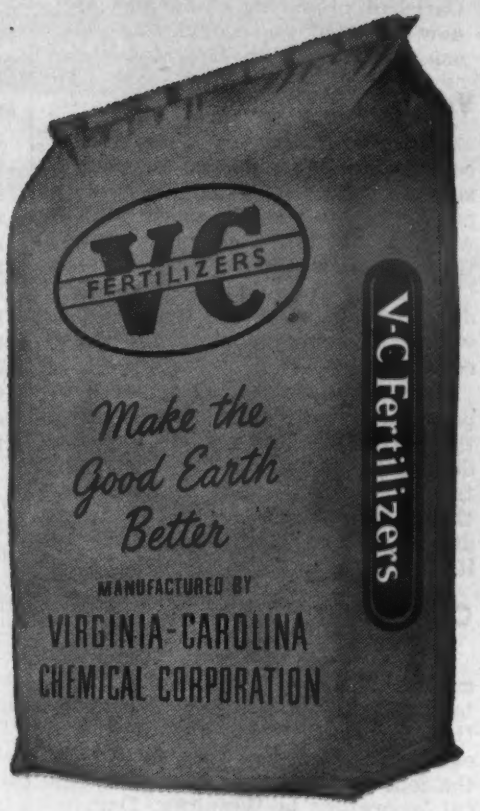

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WORLD REPORT

By GEORGE E. SWARBRECK
Croplife Canadian and Overseas Editor

Canadian Potash

The Continental Potash Corp., formerly called the Western Potash Corp., one of the firms undertaking the mining and processing of potash in Saskatchewan is negotiating for permanent financing. Exploration has shown that valuable deposits underlie a large part of the province and millions of dollars are being poured into projects for recovery (Croplife, Aug. 15, page 2).

From his headquarters at Montreal, Frank S. Welters, president of Continental, said negotiations are now being conducted with a large investment dealer firm having broad experience in underwriting of this nature. He said a further report will be made on completion of the negotiations though it will be several months before a final decision is taken.

The discussions are being conducted on the basis of geologists' reports. Experts in mining, marketing, construction and operation of mining and plant facilities are also being consulted. The company expects to mine 1.2 million tons of ore annually and to process the ore to yield 330,000 tons of K_2O muriate of potash concentrate grading 0.60% or better.

Canada's potash requirements of about 150,000 tons a year have to be imported from the U.S. since there is no potash production at present, Mr. Welters explained.

The Continental plan involves a $17.5 million financing program with $6.5 million to be raised by the issue of 10 million shares to be underwritten at 65¢ share and the remaining $11 million by the sale of debentures. The initial gross income of the company's Saskatchewan project has been set at $8 million. This plan is still the subject of study, officials stress, but it is expected that finalization will be made in due course.

Another Producer

The Saskatchewan government states that it has granted the application of United States Potash, Inc., of New York for six potash withdrawal permits, covering 601,326 acres extending in a strip from Saskatoon to Quill Lake. The company has a producing potash mine at Carlsbad, N.M. Four of the Carlsbad producing companies are now reported to be exploring potash possibilities in Saskatchewan.

Venezuela Plant

The government of Venezuela is considering an application for permission to establish a fertilizer company. The sponsors, headed by Dr. Antonio Fuentes, a chemist, propose that the new plant be located at Cabimas in Zulia State. It will produce fertilizers for use in the cultivation of tobacco, rice and sugar cane.

The expectation is that government permission will be granted because the authorities are anxious to introduce more industries into the country, particularly those that will aid the build-up of the rice and sugar industries. More fertilizers are a must if this is to be done.

Corn Borer

Another pest hitting Canadian crops is the corn borer. Early Manitoba corn is being attacked by both the European borer and the corn ear worm, according to reports from the federal government's entomological laboratory in Winnipeg. Damage to the crop is running as high as 25%.

Control, farmers say, is costly. They have to use special equipment to give several sprayings of DDT. Dr. A. G. Robertson, entomologist at the University of Manitoba, believes that the corn borer may be a problem for some time to come despite the chemical precautions now being taken.

Training Center

An international training center on soil fertility has opened near Hyderabad City, India. It is sponsored jointly by the Food & Agriculture Organization of the United Nations and the government of India.

Besides India, 11 nations are sending representatives. They are Australia, Ceylon, Egypt, Laos, the Netherlands, Malaya, the Philippines, Indonesia, Iran, Thailand and Vietnam.

The object of the center is to produce more rice by the application of research to practical problems including the testing of fertilizers and the evaluation of soil fertility. The course will continue to Oct. 15.

All-Purpose Pest Control Mixture Tested In Model Garden

WALTHAM, MASS. — Insects are ravaging part of a model home vegetable garden at the University of Massachusetts Field Station in Waltham, with the encouragement and blessing of field station scientists.

The model garden is a trial ground where an all-purpose pest control mixture is being studied. It was one of the features at the field station's open house Aug. 6. The insect-ridden portion of the garden is being left in damaged condition to show home gardeners what happens when this important phase of gardening is overlooked.

Under the direction of Prof. Warren D. Whitcomb, University entomologist at the field station, the trial garden has been divided into three equal plots of sweet corn, tomatoes, early cabbage, potatoes, carrots, onions and bush beans. Besides the untreated plot, one has been treated with all-purpose dust and another with all-purpose spray. The dust and spray each contains equal amounts of malathion, methoxychlor and zineb.

The trial has been running since May 31. Applications of the dust and the spray have been made at weekly intervals on the treated plots.

Quite a contrast is evident between the treated and untreated portions of the garden, Prof. Whitcomb points out. Eleven percent of the sweet corn tassels in the untreated part were infested with corn borer by mid-July. Thrips have hit the untreated onions, and will greatly reduce the quality and yield. Bean leaves in the untreated part have been chewed full of holes by Mexican bean beetles.

At this point the sprayed area seems to be doing the best. This was borne out when the early cabbage was harvested. The yield was considerably higher from the sprayed area than from either the dusted or untreated part.

PHYTOPATHS

(Continued from page 6)

tures included tours of the laboratories and field plots of the Ohio Agricultural Experiment Station, a panel discussion on systemics and the annual business meeting.

Dr. H. C. Young, associate chairman of the Ohio Station's department of botany and plant pathology, was in charge of all arrangements and served as narrator for the first day's events.

Elected as officers for the coming year were the following: president, Dr. C. O. Johnston, Kansas State College; vice president, Dr. J. J. Christensen, University of Minnesota; and secretary-treasurer, Dr. M. B. Linn, University of Illinois. Ralph Shay of Purdue will serve as councillor.

The group voted to hold the 1956 meeting at Kansas State College, Manhattan, Kansas, during the early part of June. Minnesota will serve as host for the 1957 meeting.

Sixteen representatives of industry and land grant colleges made up the panel team on systemics. In the absence of President Donald Cation, Dr. H. C. Young served as presiding officer.

Prior to talks from panel members, Dr. Young said there is a $3 billion annual loss from plant diseases. Growers could prevent half this loss if they practiced control methods already known. The other 50% loss offers a world of opportunity to phytopathologists.

Speaking on the use of antibiotics as systemics, Dr. J. L. Lockwood, Wooster, said they are an important source for plant disease control, but that much remains to be learned.

He cited the prevention of fireblight as one of the most spectacular uses. One advantage of antibiotics used systemically is that they are not toxic. However, pathologists know little about tissue penetration. Early tests show that the addition of glycerine to a solution gives somewhat better penetration.

G. L. Brandes of Rohm and Haas Co. spoke on the role of physiology in systemics. Declaring that there is too much emphasis placed on "squirt gun botanists," Mr. Brandes said we need to back up to the basic physiology of the plant.

In discussing chemotherapeutics, W. H. Bragonier, Iowa State College, said injection of systemics has not worked too well as yet.

Dr. M. C. Shurtleff, also of Iowa, described results of screening tests carried on during the past five years.

W. Q. Loegering, J. M. Daly and W. C. Haskett of the U.S. Department of Agriculture reported on the USDA program for systemics in cereal diseases. They requested industry to send in any new materials showing promise in the control of cereal rusts. These will be tested by the department.

The best way to evaluate systemics, stated J. B. Harry, is to follow the distribution through the live plant by chemical analysis and by radioactive tracer element techniques.

Methyl bromide gas has given good results in the control of nematodes, stated J. H. Davidson of Dow Chemical Co.

J. B. and J. S. Skaptason, Pittsburgh Coke and Chemical Co., presented a short movie feature on rust screening methods which employed new types of laboratory equipment developed by the company's research division.

In summing up the forum on systemics, Dr. H. C. Young said he foresees a revolution in the types of spray equipment needed in the future for application of systemics.

Fourteen plant pathologists on the staff of the Ohio Experiment Station showed exhibits and explained research projects to the visiting APS guests during the three-day meeting. Exhibits showed work on oak wilt, root rots, tomato diseases, soil treatments, antibiotics and others.

In a study on tissue penetration Dr. J. L. Lockwood explained how he is using the plant common known as "frog's belly" to measure the degree of penetration with various antibiotics.

The Ohio Station has a gene garden where specialists study abnormal types of plants to learn more about normal ones. It contains various mutations such as cauliflower tomato, potato leaf tomato, rosette tomato, woolly tomato and others. Also in these plots is the South American wild tomato from which Dr. L. Alexander has produced the well known Ohio WR Globe now grown in most Buckeye greenhouses.

Dr. Alexander explained the work he is doing in embryonic culture of interspecific hybrids. He now has several dozen specimens grown by culture of embryos and is hopeful that he can obtain one or more that will successfully resist attacks of tobacco mosaic.

George Bart, Ohio Experiment Station, described the host range study of oak wilt disease carried on at the Station. He is using a special nursery where a variety of trees is being tested for resistance to oak wilt. He explained that because of the sporadic distribution of oak wilt in the state it is possible that some trees other than the oak may be spreading the disease. To date, apple trees have shown they can harbor oak wilt fungi.

On the Ohio fireblight project Frank Winter reported that results this year showed less control obtained from a streptomycin spray. Temperature at time of application may have some influence, he said. Addition of glycerine to the spray helped to increase penetration of the antibiotic.

Dr. J. D. Wilson of the Ohio Station reported he is getting good control of radish yellows with Lanvacide at the rate of 400 lb. an acre and Vapam at 50 gal. an acre applied as a soil spray to muck fields. This disease has been taking an increasing toll of radish crops on Ohio's muck land in recent years.

Visiting plant pathologists joined the tours of the Ohio Pesticide Institute during the latter part of their stay in Wooster. Optional tours were also arranged to Ohio State University, the oak wilt sites in southern Ohio, and various other points.

New Controls Sought For Oak Wilt Disease

URBANA, ILL.—Forest researchers at the Sinnissippi Forest in Ogle County are waging a battle against oak wilt disease, partly by poisoning healthy trees next to wilt "pockets" to see whether they can stop the spread of the disease through root grafts under the ground surface.

T. W. Curtin, forestry research specialist at the University of Illinois College of Agriculture, says the width of this barrier of poisoned trees depends on the size of the trees involved.

Oak wilt disease moves from tree to tree through the root system but the disease can also "jump" from infected to healthy trees, over distances of a few hundred yards or more than a mile.

MEETING MEMOS

pt. 7-8—Corn Belt Anhydrous Ammonia Conference, University of Illinois, Champaign-Urbana Campus, Advance Registrations Room 216, Davenport Hall, Urbana, Ill.

pt. 7-9 — National Agricultural Chemicals Assn., Spring Lake, N.J.; Lea S. Hitchner, NAC Executive Secretary, 1145 19th St. N.W., Washington 6, D.C.

pt. 7-9 — Ninth Annual Beltwide Cotton Mechanization Conference, Texas A&M College, National Cotton Council of America, Box 18, Memphis 1, Tenn.

pt. 11-16—American Chemical Society, National Meeting, University of Minnesota, Minneapolis.

pt. 28-30—New England Fertilizer Conference, Poland Spring House, Poland Spring, Maine.

ct. 3-5—Carolinas - Virginia Pesticide Formulators Assn., Inc., Annual Meeting, Holly Inn, Pinehurst, N.C., J. B. Maddrey, 3111 Broad Creek Road, Norfolk 12, Va., Secretary-Treasurer.

ct. 11—Western Agricultural Chemicals Assn., Annual Meeting, Hotel Claremont, Berkeley, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose, Cal., Executive Secretary.

ct. 17-18 — Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago; Thomas J. Clarke, Chairman.

ct. 19-21—First International Conference on the Use of Antibiotics in Agriculture, Washington, D.C.

ct. 27—Middle West Soil Improvement Committee, Annual Meeting, Sherman Hotel, Chicago; Z. H. Beers, Executive Secretary, 228 N. LaSalle St., Chicago, Ill.

ov. 2-3 — Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend, Ore.; Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

ov. 2-5—Third annual Mid-Atlantic Farm and Home Show, Convention Hall, Atlantic City, N.J.; William A. Haffert, Jr., Sea Isle City, N.J., executive vice president.

ov. 3-4—Northeastern Division, American Phytopathological Society, Eastern States Farmers Exchange, Inc., 26 Central St., West Springfield, Mass. B. H. Davis, Department of Plant Pathology, Rutgers, University, New Brunswick, N.J., secretary.

ov. 4—Fertilizer Section, South Carolina Annual Accident-Prevention Conference, Hotel Francis Marion, Charleston, S.C., Anton L. Foster, International Minerals & Chemical Corp., General Chairman.

ov. 7-8—California Fertilizer Assn., Thirty Second Annual Convention, Hotel Mark Hopkins, San Francisco; Sidney H. Bierly, Executive Secretary & Manager, 475 Huntington Drive, San Marino, Cal.

ov. 17-18—Nitrogen Solution Field Day, National Nitrogen Solution Assn., State Armory, Springfield, Ill.; Roy F. Broyhill, Dakota City, Neb., meeting chairman.

ov. 29-Dec. 2 — Entomological Society of America, Netherlands Plaza Hotel, Cincinnati.

ec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

ec. 5-7—Chemical Specialties Manufacturers Assn., 42nd Annual Convention, Roosevelt Hotel, New York; H. W. Hamilton, 50 E. 41st St., New York 17, N.Y., Executive Secretary.

ec. 8-9—Michigan Fertilizer and Lime Conference, Michigan State College, East Lansing.

Dec. 15-16—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Sponsored by the National Cotton Council.

Dec. 28-30 — American Phytopathological Society, Atlanta, Ga.; Glenn S. Pound, University of Wisconsin, Madison, Wis., Secretary.

1956

Jan. 4-6—Weed Society of America, Charter Meeting, Hotel New Yorker, New York, W. C. Shaw, U.S. Department of Agriculture, Beltsville, Md., Secretary-Treasurer.

Jan. 15-17—New Mexico Grain & Feed Dealers Assn., Annual Convention, Hilton Hotel, Albuquerque, with Special Portion for Fertilizer and Farm Chemical Dealers, H. B. Hening, Albuquerque, Secretary.

Feb. 15-17—California Weed Control Conference, Sacramento and Davis, Cal.; Oliver A. Leonard, Botany Dept., University of California, Davis, Cal., Secretary.

Feb. 15-17—Western Weed Control Conference, Sacramento and Davis, Cal.; W. C. Robacker, U.S. Department of Agriculture, Nevada Agricultural Experiment Station, Reno, Nev., Secretary-Treasurer.

Jan. 26-29 — Agricultural Aircraft Assn., Inc., Sixth Annual Convention, Wilton Hotel, Long Beach, Cal.; Wanda Branstetter, Route 3, Box 1077, Sacramento, Cal., Executive Secretary.

June 28-30—Association of Southern Feed & Fertilizer Control Officials, 14th Annual Convention, Hotel Roanoke, Roanoke, Va., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

Program Completed For Western Conference

PORTLAND, ORE.—The program for the second annual Western Area Development Conference has been completed, with a full agenda for the two-day meeting, Sept. 8-9. Headquarters for the meeting will be the Multnomah Hotel, Portland.

Sponsored by Stanford Research Institute in cooperation with the American Industrial Development Council and Pacific Northwest Trade Assn., the program will comprise speakers from various areas of the West, discussing the economic outlook for the West in future years.

CALIFORNIA PILOT KILLED

INDIO, CAL.—Tom Davis, 49, was killed near here recently when the wing of his crop-dusting biplane caught a power line. He was a business partner with Robert Willis in operating the Diablo Dusters Co.

Pipeline

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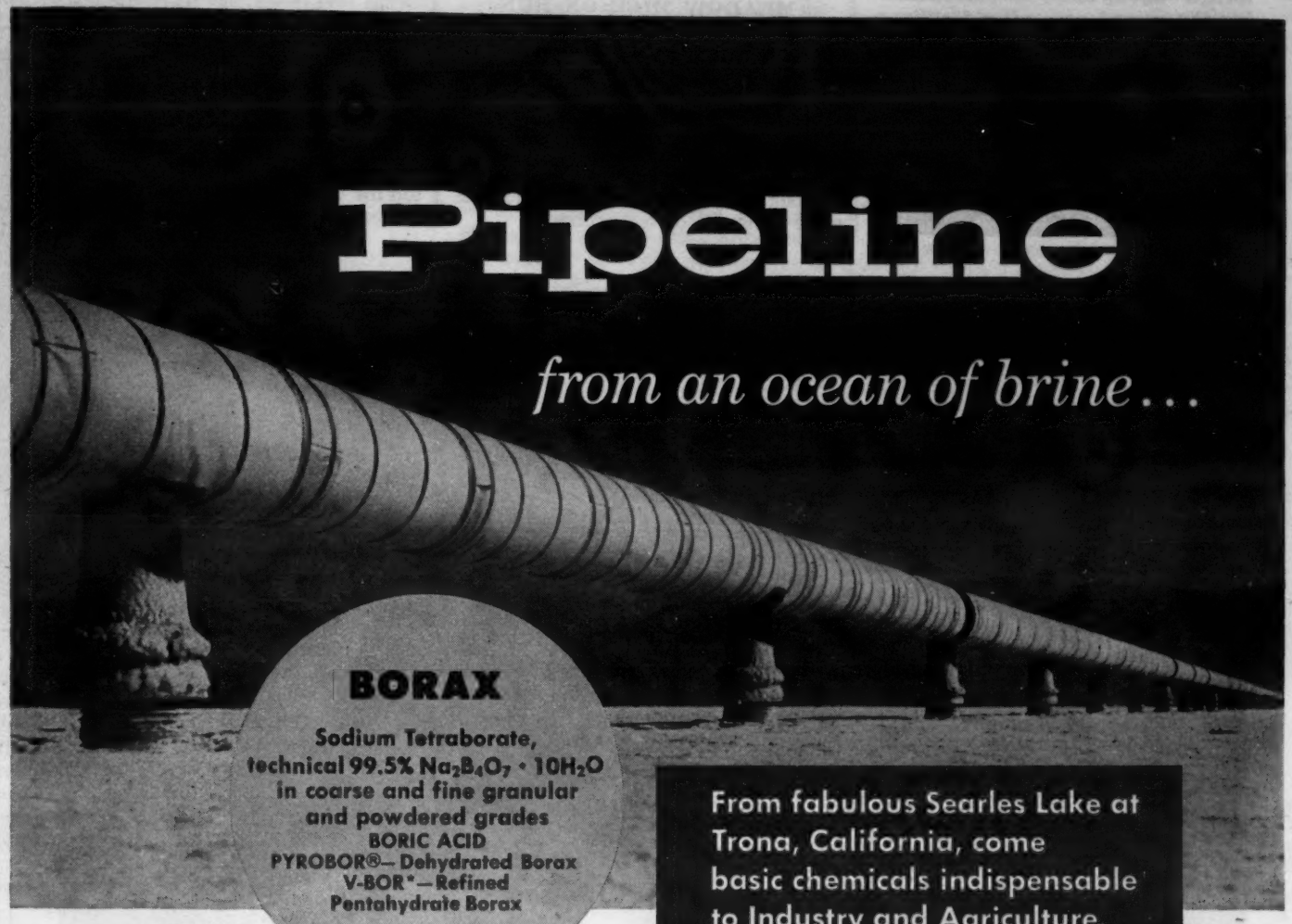

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Forage Yields Upped in Western Nitrate Tests

WASHINGTON, D.C. — One application of nitrate fertilizer boosted forage yields 25 to 100% during three years in tests on seeded rangeland in the West, the U.S. Department of Agriculture reports.

Scientists of USDA's Agricultural Research Service recently determined that average forage yields on seeded range in Lassen National Forest, Cal., can be increased substantially during three consecutive years by a single application of ammonium nitrate fertilizer at the rate of 60 lb. nitrogen per acre. Tests on this land, which was previously in sagebrush, showed a total increase over the three-year period of 1,035 lb. forage per acre, amounting to an average increase of nearly 60% per year.

The greatest increase in yields of forage—about 100%—occurred during the second year after fertilizer was applied. It was made possible by a high retention of nitrogen in the soil, due to a short growing season and minimum air and leaching losses that occur in this high-altitude region. During the first and third years after fertilizer was applied, yields increased about 25% and 55%, respectively.

Experiments were also conducted by USDA scientists on the effect of applying fertilizer at rates of 30 lb., 60 lb., and 120 lb. per acre. Of these different rates, 60 lb. of nitrogen per acre appeared to give the most satisfactory results.

Prior to fertilizing, a mixture of forage species — containing smooth and mountain bromegrass, western and crested wheatgrass, timothy, and Ladak alfalfa—was sown at the rate of 16 lb. per acre. Although a good stand of grass was obtained on all test plots, alfalfa established poorly. Yields of mountain brome grass and timothy decreased rapidly after the second year of growth.

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MEADOW MICE ON RUN

BURT, N.Y.—Meadow mice, among New York's worst orchard pests, are getting the "bomb" treatment from Russell D. Sage, a flying farmer. Mr. Sage has successfully put into use a gadget known as a Venturi pipe, hooked over the side of an airplane, and showers poisoned pellets into the mice runways of his orchard.

FMC Sets New Records Thus Far in 1955

SAN JOSE, CAL.—New records in both sales and earnings have been reported by Food Machinery & Chemical Corp. here, for the first quarter of 1955 and also for the first six months of the year. Gross revenues for the second quarter were $75,809,628 as compared with $65,562,927 last year.

The six month gross totaled $137,694,943 against $116,517,852 during the first half of 1954.

Second quarter net of $4,789,151, or $1.47 a common share, compared with $3,678,618, or $1.18 a share, in the 1954 period. Six months earnings were $8,015,449, or $2.45 a share, against $6,576,361, or $2.10 a share, in 1954.

The company's backlog of orders June 30 totaled $66,845,000, down slightly from the year earlier figure of $68,108,000, Paul L. Davies, president, told stockholders.

Mr. Davies also announced the company will build a new plant at Houston for Chiksan Co., another food machinery acquisition this year.

Weather, Pesticides Combine for Bigger Crop Yields in South

MEMPHIS, TENN. — Hot, dry weather and plenty of pesticides have combined to curtail the spread of boll weevils in the Mid-South, as the area's principal crops made excellent progress.

The weekly crop report from extension officials in Arkansas, Mississippi, Missouri and Tennessee disclosed that Mid-South farmers have one of the most promising crops in several years.

Crops in Mississippi did well as hot weather dried out fields and permitted farmers to treat their cotton fields to stop the progress of weevils. However, they were confronted with increasing infestations of boll worms.

Spider mites and plant lice are beginning to show up in damaging numbers, too, A. G. Bennett, Mississippi Extension entomologist, reported.

Some early fields of corn are being harvested for silage and some fields are being used for hogging off corn, according to W. R. Thompson, extension agronomist.

In Southeast Missouri, some farmers have begun irrigation work, W. F. James, Pemiscot County agent said. Crops of corn and soybeans are being irrigated in some areas.

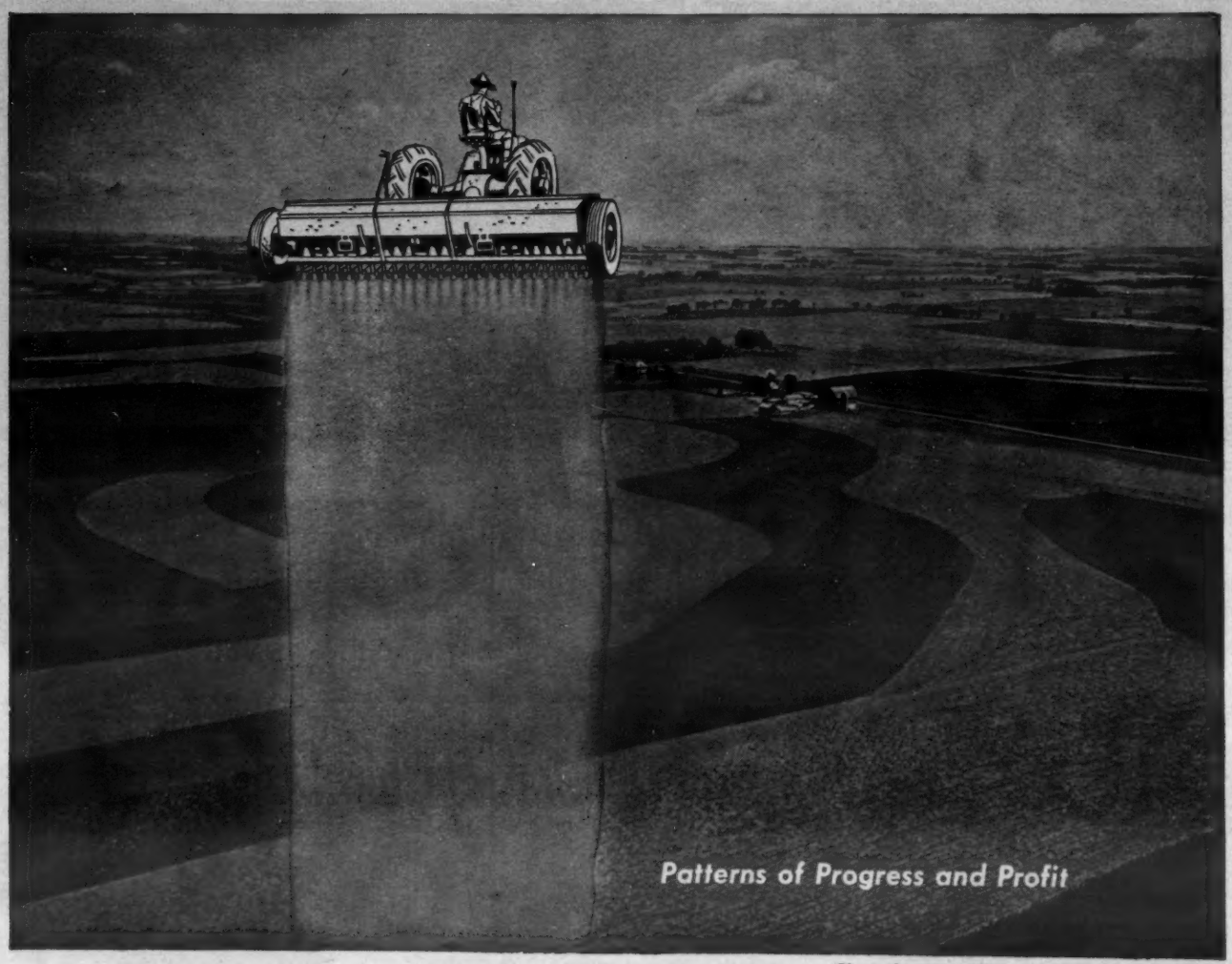
Hay and corn crops are good and the soybean crop is the best in many years, Mr. James said. Cotton is in excellent condition and insect infestation has been slowed.

"Plenty of hot weather during the past week had a good effect on all crops in West Tennessee," Judd Brooks, district extension agent at Jackson, said.

Corn is in excellent shape and many farmers are predicting record harvests this year. Although cotton is somewhat late it is doing very well.

"An abundance of hay is reported in all sections of the district and curing has been progressing rapidly. Land preparation and sowing of fall crops are progressing. Many farmers are preparing seed beds for early seeding of crimson clover, barley, sweet potatoes, pastures and gardens," Mr. Brooks said.

In Arkansas, Miles McPeek, agricultural statistician for the Federal Crop Reporting Service at Little Rock, said reports from various counties indicated farmers are putting up hay, applying chemicals for insects and putting up silage.



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DAVISON

(Continued from page 1)

in the field of industrial atomic energy, Davison has formed an Atomic Developments Department with headquarters at Baltimore. Marlin G. Geiger, Davison president, has named as manager Dr. Allen T. Cole, formerly manager of the company's Florida Phosphate Division, Bartow, Fla.

One of the objectives of the new department will be to expand industrial uses of rare earths through research, a continuation of work done in this field by Rare Earths, Inc., under Richard Mandle, vice president.

CLIMAX NAMES G. L. INNES

NEW YORK—George L. Innes has been appointed manager of chemical sales of Climax Molybdenum Co., L. E. Ekholm, manager of sales, announced. Mr. Innes was formerly sales manager of Jefferson Chemical Co., which he joined in 1948.

FARM DECLINE

(Continued from page 1)

sisting that "if a little was good ore was better."

Congress after Congress renewed the original idealistic goals of Congressman Steagall and continued the basic principle of rigid high price supports until the 80th Congress. At that time Senator George D. Aiken, backed by then USDA Secretary Clinton P. Anderson, made the first breach in the high price support armor and enacted the sliding scale price support mechanism. That principle has never been permitted to operate under the meeting of the 83rd Congress when the farm bloc split badly and Congress re-affirmed the start made through the efforts of Senator Aiken.

Many Washington observers consider it encouraging to see the USDA Benson team taking the offensive. Don Paarlburg says there is no farm depression in the making and his facts appear to confirm his statements. Although net farm income has declined in the period of 1947-54 by 30%, the farm population fell by 20%.

At the same time, off-farm income now amounts to 30% of income received by farmers and if "account is taken of the income received from non-farm sources, the per capita income of farm people from all sources has actually increased 16% in the past seven years."

In more gracious words, Mr. Paarlburg says in effect that the spook of farm depression cannot be sustained when it is noted that 88% of our farm products going to market are produced from two million farm units which are considered as commercial farms. The balance is produced on 3½ million farms which are so small and produce so little that their incomes from farming are always low, good times or bad.

However, the high price support statisticians group together these two units when they arrive at their depression-in-farming conclusions.

The plant food and pesticide industries may use these group figures as a sound basis on which sales plans can be made for the future.

In subsequent issues, Croplife expects to carry an official estimate of the use of plant foods and pesticides within the 2 million farmer group which produces 88% of the farm products. These figures will disclose that even on these better farming units, the economic level of use of these products is far from optimum. This would mean that as the farm economic revolution continues, the outlook for better and larger markets for plant foods and pesticides will be improved both as to quality and quantity.

As Don Paarlburg initiates the Benson offensive against his high rigid price support opponents, he finds that the farm depression scare does not have substance. For example, he measures the exact economic status of all farmers including the 3½ million farm units which ordinarily scarcely pay their way. He finds through access to a study conducted by Raymond Goldsmith (published by the National Bureau of Economic Research) that the average equity of all farmers is about $22,000 per family, whereas a comparable figure for non-farm families is about $17,000.

Another aspect of the farm situation, hardly confirming rumors of a farm depression, is the individual farmer's outlook toward real estate values. Mr. Paarlburg sees that farmers are generally optimistic in that connection. Farm real estate values in the U.S. rose 2% in the last year and are now only 3% below their record high in 1952. On the other hand, farm indebtedness is at a moderate level, he says, at only 11% of total assets whereas in 1940 they were 19% of assets and in 1930—21%.

There are many other plus values that Mr. Paarlburg cites for the farm community. But the major point in the Paarlburg speech is that it touches off the showdown fight between Secretary Benson on one side and his opponents on the other side who continue to preach the rigid high price support philosophy.

The Benson offensive will provide further revealing information for the plant food and pesticide industries, disclosing a great opportunity to increase the efficiency of the two million farms which produce 88% of agricultural commodities going to market in this nation.

Farm prices have declined, Mr. Paarlburg admits—they probably will decline farther other USDA officials agree. But the answer is not the market price alone but rather the efficiency with which the unit is produced.

The farm economic revolution is in full swing. It is in the middle that Mr. Benson finds himself in that struggle. He sees the urgent need of farming efficiency as the escape of the farmer between the cost-price squeeze that is hurting in the farm community. It is in that area that the plant food and pesticidal chemical industries will find expanding markets.

A BOWL FOR THE GOVERNOR—Governor Arthur B. Langlie of Washington and Governor Paul Patterson of Oregon have accepted a challenge on behalf of their farmer-constituents as to which state is the best producer of strawberries. The winner will have temporary possession of the "Oregon-Washington Strawberry Bowl" (shown above), which was provided by the National Plant Food Institute and is being displayed by Dr. Russell Coleman (left), executive vice president, and Delbert L. Rucker, director of publications of the NPFI. Mr. Rucker, a native of the state of Washington, assisted in the planning of the contest.

The presentation of the bowl to the governor of the winning state will be a highlight of the annual banquet of the Oregon State Horticultural Society which meets at Corvallis, Oregon, on December 1. Growers participating in the contest must have an average per acre yield of at least five tons of berries on a minimum of five acres.

WINS MORE HONORS—Alvin Hansen (right), Stanton, Mich., farmer, was one of three American farmers honored at Michigan State University's "Centennial of Farm Mechanization." He had previously been cited for other honors, including "Outstanding Young Farmer of Michigan." With Mr. Hansen is his county agent, Vic Beal. An enthusiastic booster for the use of both fertilizer and pesticidal sprays, Mr. Hansen makes it a practice to heed suggestions made by his county agent and the State Agricultural Experiment Station. (MSU photo.)

CITRUS KING

ORLANDO, FLA.—Polk County is the production "king" of Florida's citrus industry and with an assist from Orange and Lake Counties is responsible for more than half of the oranges, grapefruit and tangerines from the Sunshine State, according to the Agricultural Marketing Service of the U.S. Department of Agriculture in Orlando.

INDUSTRY

(Continued from page 1)

down to 52,390 tons at the end of April.

During the same period, stocks of coke oven ammonium sulfate declined from 162,393 to 82,464 tons. Stocks of synthetic ammonium sulfate and ammonium nitrate were down to 39,408 and 37,861 tons, respectively, on April 30 compared with peaks of 109,284 and 152,461 tons on Dec. 31, 1954.

Monthly production statistics for urea which were reported for the first time by the U.S. Tariff Commission in its June 21 release, "Organic Chemicals and Plastic Materials," showed March and April output as 17,983 and 17,679 tons, respectively. These figures represent solid (crystal) urea only and apparently do not include urea produced in the form of solutions. It is estimated that current capacity to produce urea in all forms is approximately double the reported production of the solid material.

Wet process phosphoric acid output set a new record in April as did production of concentrated superphosphate. The latter material is the end-product of over 70% of the wet process acid.

The majority of Florida phosphate rock producers were forced to shut down in June because of a strike. (This situation was remedied last week . . . see report in this issue of Croplife). However, since the work stoppage came after the peak fertilizer demand and consumers generally had fairly good supplies of rock on hand, the fertilizer industry did not suffer greatly.

The Commerce Department report on pesticides says that the January-April production and exports of these materials were higher than comparable data for the first four months of 1954.

Increased export demand probably accounted for the fact that output of DDT during this period rose almost 22% as compared with a year ago. Production of 2,4-D was 23% higher and, although complete data are not available, it is evident that output of 2,4,5-T also was greater than that in the first four months of 1954.

Since exports of weed killers remained at about the same level as a year ago, the rather steadily growing domestic demand was evidently the basis for the higher production of 2,4-D and 2,4,5-T. Manufacture of copper sulfate was 816,000 lb. higher, but stocks on April 30 were only about one third as large as a year ago, indicating larger current and recent shipments. On the other hand, output of BHC was 34% lower than that produced in the first four months of 1954.

Although exports of copper sulfate were exceptionally large in April, 1955, total shipments abroad in January-April were only 10% above those for the corresponding period of 1954. Exports of "DDT 25% and over" for the first four months of 1955 were more than twice those of a year ago, with some 4,284,000 lb. (18%) going to Mexico. In spite of low current production, exports of BHC (gamma basis) in January-April were almost three times above those in the first four months of 1954.

Foreign shipments of weed killers varied little in the two periods. January-April, 1955, exports of "Miscellaneous agricultural insecticides and related materials," which includes new pesticides and specialized products in this field, were up 21%, and foreign shipments of household and industrial insecticides rose about 40% compared to January-April, 1954.

Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

Controlling Plant Diseases

A potential increase of millions of dollars for the agricultural chemical industry, through the further development of new systemic chemicals for plant disease control, is seen by Dr. H. C. Young, associate chairman of the Department of Botany and Plant Pathology, Ohio Agricultural Experiment Station.

In an editorial in a recent issue of the Ohio Pesticide Institute "News," he declares that still uncontrolled plant diseases offer a rich field for the chemical industry. With some 40% of known diseases of plants being yet without a chemical means of control, it is not difficult to see what opportunities lie ahead in this direction.

Many of these uncontrolled diseases do their damage inside the plant where materials of preventive nature are unable to penetrate. These maladies include the large group of root-rots which might require soil treatment in order to effect a control.

Obviously, a great deal of research will need to be done, in addition to the considerable amount now under way in various places under the sponsorship of both the industry and government agencies. Such research must be conducted in such a way that chemical formulations may be forthcoming and that the causal organism of the disease may be known.

"Almost all efforts in the development of pesticides have had to do with preventive chemicals," Dr. Young states. He adds that there are many problems of phytotoxicity, occurring when the chemical that enters the plant's system is just as liable to injure the tissue of the plant as it is to control the organism causing the disease.

This problem is complicated by the fact that most causal organisms are plants, too, making it necessary for the fungicide used to be specific in its action and work only against the parasite without injuring the plant.

On the market now are a number of products that have made big changes in spraying programs during the past five years or so, but these are of preventive nature, leaving a big market still for chemicals with the ability to get at the disease and control it, Dr. Young observes.

In addition to synthesized products, the antibiotic group is showing the properties of bringing under control many types of diseases heretofore uncontrollable. Such diseases that are caused by viruses, bacteria and even a few of the root rots are now being controlled.

The research departments of the chemical industry are hard at work on these problems and it is practically inevitable that some good, workable remedies will be forthcoming eventually. In fact, with a promising market awaiting the appearance of some fungicide or antibiotic that will be able to stop at least a few of these plant diseases, the probabilities of success are rather high.

We will go along with Dr. Young in his statement that "The chemical industry faces a several million dollar increase if these new types of chemicals can be perfected."

Can Farms Keep the Pace?

The manner in which agriculture must develop and adopt new and more efficient ways of production to keep pace with the changing world is a subject to which many great minds are giving much thought at the present time.

A person doesn't have to be 100 years old, nor 90 nor even 75 to remember the days when American agriculture depended almost entirely upon the muscles of men and horses, with perhaps some water power, for doing all the heavy work in connection with planting and cultivating and harvesting crops. So times have changed. But they haven't stopped changing and the question still is, "where do we go from here?"

In a recent talk at Pennsylvania State University during ceremonies in observance of the 75th anniversary of the Jordan soil fertility plots, said to be the oldest extensive fertility plots on the continent, Dr. W. I. Myers, Dean of Cornell University's College of Agriculture, had some thoughtful comments to make along this line.

"Although American agriculture is the most efficient in the world," said he, "it can be made better in the years ahead. The only way in which our level of living can be raised further is by continuing to increase the output per worker in farming and other occupations. Given fair prices, an abundance of food for our increasing population can be produced by not more than three million family-sized commercial farms.

"Progress in this direction will be promoted by decentralization in industry and by better educational facilities to provide guidance and training not only in agriculture for young men who will farm, but also especially for nonfarm vocations and professions for the one half of farm boys not needed in modern mechanized agriculture.

"This movement will contribute to rising levels of living for the remaining farm families as well as for the nation by reducing the number of underemployed low-income farmers. Part of this increased efficiency will be made possible by greater use of power for many more farm tasks.

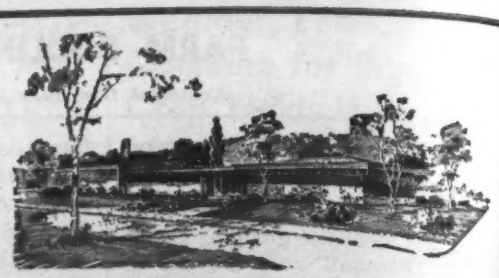
"The principal way to increase food production of our growing population is through higher yields from the land already in use. Unproductive land and land not suited to machine operation will be unable to compete in crop production and will be used for pasture or reforested.

"Research using radioactive materials is showing how plants grow and will make possible higher yields through more effective use of lime, fertilizers, insecticides, fungicides, hormones, and the like. Supplemental irrigation will expand rapidly, especially with high-acre-value crops because of the importance of adequate moisture at critical periods for maximum yields.

"All this adds up to the need for a continuing increase in production and efficiency on American farms. In the future, as in the past, progress will be based primarily on the application of science and engineering to agriculture. Continued close and effective teamwork between agricultural research and extension will be essential. The best progress will not be possible unless farm families can continue to operate in a free economy without rigid governmental regulation.

"American agriculture, like industry, is dynamic, not static. It is subject to constant change, and we would be remiss if we did not maintain a constant search for improvements in all phases of food production and marketing. Because of constant change, research on many important problems will never be completed. We will never have the perfect spray for apples or potatoes, nor the final formula for a perfect dairy or poultry ration.

"As each new advance is made, there will always be a need for more efficient methods of farm management and of production, for still better varieties of crops, for higher producing cows and hens, for more effective means of controlling insects and diseases, for improved processing and marketing, and for better rural living. A comprehensive, coordinated, and well-supported program of agricultural research on a stable continuing basis and focused on fundamental as well as applied problems is the only means by which these ends can be achieved."



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MILLING PRODUCTION

O.P.I.

(Continued from page 6)

nsive studies on turf control, stated . C. R. Neiswander. Tests showed at bentgrass was able to withstand to 100 lb. chlordane an acre for e treatment of grubs and other l insects. Treatments were evalued by counting the number of bird ding punctures in the turf.

At the Celeryville Substation, tour embers viewed experiments on cely disease control, onion maggot d thrips control, and fungicide-ecticide formulations for potatoes. e Celeryville farm is located in the art of the state's largest muck ops land.

Station officials cited heavy inrest among area growers in the rearch at the substation. Weed conol recommendations for onions have en especially helpful. One of the ost important remaining problems the control of nematodes. A full ale project is now underway.

The summer meeting of the Ohio sticide Institute concluded with a nner at Plumbrook country club ar Sandusky.

Pyrenone*

Wheat and Grain Protectants

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od Machinery and Chemical Corp.
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Dr. William Hale Dies

MIDLAND, MICH. — Dr. William J. Hale, research consultant with the Dow Chemical Co., Midland Mich., and one of the nation's leading organic chemists, died Aug. 8. He was 79 years old. He taught at the University of Michigan where he met the late Dr. Herbert H. Dow, founder of the Dow company. They became associated in research that led to quantity production of chemicals. Following his resignation from his chemistry professorship at Michigan he became director of the Dow organic research laboratory.

VEGETABLES

(Continued from page 2)

Specific acreage guide recommendations for the 1956 winter vegetables follow (detailed reports by states for these commodities will be available shortly at USDA):

Commodity	Percentage Change in 1956 Acreage for Harvest Compared with 1955
	percent
Lima Beans	No change
Snap Beans	Minus 5
Beets	Minus 20
Broccoli	Plus 10
Cabbage	No change
Carrots	Minus 5
Cauliflower	No change
Celery	Plus 5
Sweet Corn	Plus 50
Cucumbers	No change
Eggplant	No change
Escarole	Minus 5
Kale	Minus 5
Lettuce	No change
Green Peppers	Minus 5
Shallots	Minus 20
Spinach	No change
Tomatoes	Plus 5
Potatoes	Minus 24

New Bulletin Suggests Ways to Protect Grain

MANHATTAN, KANSAS — Pests of farm stored wheat and their control are discussed in a new bulletin (No. 371) just published by the Kansas agricultural experiment station, Kansas State College.

Included by the authors, D. A. Wilbur, entomologist, and George Halazon, extension rodent and predator control specialist, are such topics as types of damage, sources of insects that infest wheat, damage caused by birds and rodents, and how to protect wheat on farms.

The program for protecting wheat on the farm, as summarized in the bulletin, is: to maintain good housekeeping practices; store wheat in well constructed, isolated granaries as dry as possible; apply a residual spray to ceilings, walls, and floors inside bins at least three weeks before grain or feed is stored; fumigate all old grain that cannot be removed before new wheat is binned; apply protectants to newly harvested wheat; fumigate unprotected wheat within six weeks after harvest; inspect wheat frequently to check on infestations and fumigate a second time if infestations develop; destroy rodent populations and make storage areas verminproof; and exclude birds by screening openings.

INDIANA LIME USE REDUCED

LAFAYETTE, IND.—Indiana farmers applied an estimated 1,584,735 tons of liming materials to their fields in 1954, according to extension agronomists at Purdue University. This indicated a considerable reduction from the 2,449,700 tons used in 1953.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge $3.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $9 per column inch.

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FOR FAST ACTION AND RESULTS try Croplife's CLASSIFIED ADVERTISING

NAMED TO NEW POST

ATLANTA—Gen. Edwin Cox, vice president of Virginia-Carolina Chemical Co., Richmond, was recently elected a regional vice president of the Southern Association of Science & Industry.

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The fastest-growing mixed fertilizer today is concentrated 1-1-1 ratio goods like ARCADIAN 12-12-12 Granular Fertilizer. Ideal for all crops, ARCADIAN 12-12-12 renews soil fertility continually drained by modern, high-yield crops. Every firm, non-dusting granule of ARCADIAN 12-12-12 supplies balanced nitrogen, phosphorus and potash, plus calcium, sulphur and important minor elements. Non-clogging, fast-spreading ARCADIAN 12-12-12 is just the thing for "one-shot" complete feeding of crops this fall.

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Labor-saving ARCADIAN Nitrogen Fertilizer Solutions have taken most of the work out of nitrogen top-dressing and fall plow-down as well as side-dressing. Your customers can apply ARCADIAN Nitrogen Solutions as fast as 100 to 200 acres a day, with simple, tank and boom or injection equipment you sell or rent. Many suppliers also build a profitable custom application business on ARCADIAN URAN*, NITRANA®, and FERAN* Nitrogen Fertilizer Solutions. No bags to lift, no high-pressure fumes, just quick-acting, long-lasting, economical nitrogen that "flows" on!

3

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- ☐ **A-N-L® Nitrogen Fertilizer** *Pelleted*

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